

1 NIALL P. McCARTHY (SBN 160175)
nmccarthy@cpmlegal.com
2 TYSON C. REDENBARGER (SBN 294424)
tredenbarger@cpmlegal.com
3 GRACE Y. PARK (SBN 239928)
gpark@cpmlegal.com
4 COTCHETT, PITRE & McCARTHY, LLP
San Francisco Airport Office Center
5 840 Malcolm Road
Burlingame, CA 94010
6 Telephone: (650) 697-6000
Facsimile: (650) 697-0577

7 *Attorneys for Plaintiffs*

8
9 UNITED STATES DISTRICT COURT
10 NORTHERN DISTRICT OF CALIFORNIA

11 SIERRA CLUB, INC.;
SURFRIDER FOUNDATION, INC.;
12 HEAL THE BAY, INC.; and
BAYKEEPER, INC.; each a California Nonprofit,

13 Plaintiffs,

14 v.

15 EXXONMOBIL CORPORATION, a New Jersey
16 Corporation, and DOES 1-10,

17 Defendants.

Case No. 3:24-cv-07288-RS

FIRST AMENDED COMPLAINT FOR:

1. NUISANCE; and
2. VIOLATION OF CALIFORNIA UNFAIR
COMPETITION LAW

DEMAND FOR JURY TRIAL

TABLE OF CONTENTS**Page No.**

I.	INTRODUCTION	1
II.	JURISDICTION AND VENUE	6
III.	THE PARTIES.....	7
A.	Plaintiffs.....	7
1.	Sierra Club.....	7
2.	Surfrider.....	7
3.	Heal the Bay	8
4.	Baykeeper	8
B.	Defendant.....	9
C.	Doe Defendants 1-10	10
IV.	FACTUAL ALLEGATIONS	10
A.	Single-Use Plastics Cannot be Safely Disposed	10
1.	Single-Use Plastics are Derived from Oil	10
2.	Single-Use Plastics Cannot be Safely Landfilled.....	12
3.	Single-Use Plastics are not Recyclable	14
4.	Single-Use Plastics Cannot be Safely Disposed by “Advanced Recycling”.....	20
5.	Single-Use Plastics Inevitably Become Pollution	23
B.	ExxonMobil Long Knew that Single-Use Plastics’ Fundamental Characteristics Make them Technically and Economically Impossible to Safely Dispose.....	27
C.	Despite Knowing Single-Use Plastics Cannot be Safely Disposed, ExxonMobil’s Business Model Aims to Increase the Production of Virgin Polymers	28
D.	ExxonMobil Knowingly Misrepresented the Technical and Economic Feasibility of Single-Use Plastics Disposal	31
1.	ExxonMobil Knew Single-Use Plastics Cannot be Safely Landfilled	31
2.	ExxonMobil Knew Single-Use Plastics Could Not be Technically or Economically Recycled	33
3.	ExxonMobil Knew Single-Use Plastics Cannot be Safely Incinerated, Whether by “Advanced” or “Chemical” Recycling.....	39

1	E.	ExxonMobil Knew Single-Use Plastics Would be a Substantial Factor Causing the Current Single-Use Plastics Pollution Crisis	42
2	F.	ExxonMobil’s Conduct and Resulting Single-Use Plastics Pollution Injured the California Public	43
3	G.	ExxonMobil’s Conduct and Resulting Single-Use Plastics Pollution Injured Named Plaintiffs	46
4		1. Sierra Club.....	46
5		2. Surfrider.....	48
6		3. Heal the Bay	50
7		4. Baykeeper	53
8	V.	CAUSES OF ACTION	56
9		FIRST CAUSE OF ACTION	
10		Private and Public Nuisance Violations of Civil Code §§3479-3480.....	56
11		SECOND CAUSE OF ACTION	
12		Violation of California Unfair Competition Law, Bus. & Prof. Code §17200, <i>et seq.</i>	59
13	VI.	PRAYER FOR RELIEF	62
14	VII.	DEMAND FOR JURY TRIAL	63

1 I. INTRODUCTION

2 1. In just seventy years, plastic has become one of the most ubiquitous materials on earth.
 3 “Single-use plastics” are plastic products designed to be discarded immediately after one use. These
 4 plastics are commonly used for packaging and service ware, such as bags, bottles, wrappers, and straws.
 5 They are harmful, toxic products that cannot be safely disposed through recycling or by other means.
 6 Defendant ExxonMobil Corporation (“ExxonMobil”) has created a single-use plastics pollution crisis
 7 across California by concealing these facts for decades to sell more plastics.

8 2. Most plastic, and nearly all “single-use plastics,” become non-biodegradable microplastic
 9 particles, which persist in the environment for hundreds of years. They consist of a “forever” cocktail of
 10 chemical additives known to harm humans, plant and animal life, and natural resources. Microplastics are
 11 everywhere, invading our environment, the food we eat, the water we drink, and the air we breathe.

12 3. The proliferation of single-use plastics did not just happen. Rather, the petrochemical
 13 industry, led by ExxonMobil, the world’s largest producer of polymers to make single-use plastics, caused
 14 the single-use plastics pollution crisis through a decades-long campaign asserting that single-use plastics
 15 trash is harmless and can be disposed of easily and safely. The reality is quite the opposite.

16 4. Single-use plastics are toxic products that cannot be safely disposed, a fact ExxonMobil
 17 has known since the 1970s. Instead of disclosing the harmful realities of these plastics, ExxonMobil
 18 engaged in a fifty-year operation to **bury the truth**, promoting the fiction that single-use plastic waste
 19 can be safely, technically, and economically disposed by landfilling, recycling, or incineration. However,
 20 each results in harmful pollution.

21 5. In particular, two characteristics of single-use plastics make it incapable of safe disposal:
 22 (1) single-use plastic never biodegrades, meaning they never entirely break down or fully disappear; and
 23 (2) single-use plastic incorporates numerous harmful additives and chemicals, making it impossible to
 24 safely landfill, recycle, or burn.

25 6. California dumps more than 12,000 tons of plastic into landfills every day—enough to fill
 26 219 Olympic-size swimming pools.¹ But landfilling is not a safe solution because single-use plastics never

27 ¹ “You Can’t Recycle Your Way Out”: California’s Plastic Problem and What We Can Do About It,
 28 available at <https://kqed.org/news/11901288/you-cant-recycle-your-way-out-californias-plastic-problem-and-what-to-do-about-it>.

1 biodegrade. Instead, they break into microplastics and leach dangerous chemicals into the soil and
2 surrounding groundwater.

3 7. Despite years of misleading marketing, recycling is also not a solution due to long known
4 technical and economic limitations that prevent most plastic from being recycled. The cost of collection,
5 sorting, and processing mixed materials with a host of varying chemical additions render single-use plastic
6 incapable of being recycled into new products, and effectively cost-prohibitive compared to the relatively
7 simple process of producing virgin polymers from oil.

8 8. ExxonMobil has known this since at least the early 1980s. On its website today,
9 ExxonMobil admits “only about 9% of all plastics produced are recycled.”² Indeed, since 1950, more
10 than 90% of all plastics ever created have been landfilled, incinerated, or littered into the environment
11 rather than recycled.³ And the recycling rate for single-use plastics is even lower—*e.g.*, as low as 1% for
12 many resin types.

13 9. Keenly aware that recycling could not keep pace with the proliferation of single-use plastic
14 trash, and given the disappearing market for exporting plastics, ExxonMobil pivoted. Around 2017,
15 ExxonMobil began touting “advanced recycling” as a supposed new technology that it claims, “deployed
16 together” with recycling, offers a “huge opportunity” “to help address the plastic waste problem.”⁴

17 10. However, “advanced recycling,” also known as “chemical recycling,” is an industry catch-
18 all term for a variety of processes—including pyrolysis, gasification, hedrolysis, methanolysis, and
19 more—that are intended to break a polymer down to its basic chemical elements. These processes are not
20 “advanced” or “recycling.” They have been around for decades. Regardless of the name, the output of
21 “advanced recycling” is not polymer or plastic, but rather oil and toxic byproducts. The energy intensive
22 process of pyrolysis results in greenhouse gas and toxic fume emissions that are known to cause serious
23

24 ² *Expanding the plastics life cycle*, available [https://corporate.exxonmobil.com/sustainability-and-](https://corporate.exxonmobil.com/sustainability-and-reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-cycle#Strengtheningcircularitywithadvancedrecycling)
25 [reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-](https://corporate.exxonmobil.com/sustainability-and-reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-cycle#Strengtheningcircularitywithadvancedrecycling)
[cycle#Strengtheningcircularitywithadvancedrecycling](https://corporate.exxonmobil.com/sustainability-and-reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-cycle#Strengtheningcircularitywithadvancedrecycling).

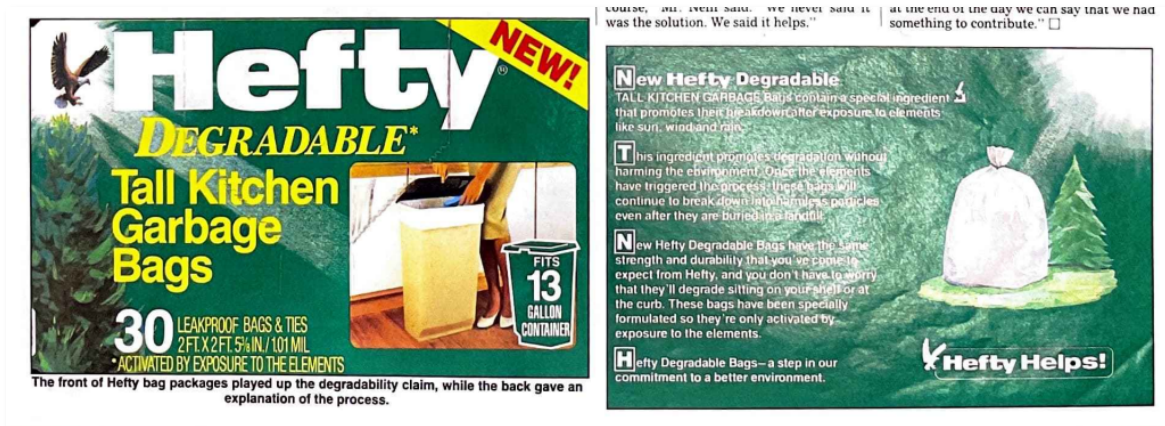
26 ³ *A whopping 91% of plastic isn't recycled*, available at
27 [https://nationalgeographic.com/science/article/plastic-produced-recycling-waste-ocean-trash-debris-](https://nationalgeographic.com/science/article/plastic-produced-recycling-waste-ocean-trash-debris-environment)
28 [environment](https://nationalgeographic.com/science/article/plastic-produced-recycling-waste-ocean-trash-debris-environment).

⁴ *Expanding the plastics life cycle*, available [https://corporate.exxonmobil.com/sustainability-and-](https://corporate.exxonmobil.com/sustainability-and-reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-cycle#Strengtheningcircularitywithadvancedrecycling)
[reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-](https://corporate.exxonmobil.com/sustainability-and-reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-cycle#Strengtheningcircularitywithadvancedrecycling)
[cycle#Strengtheningcircularitywithadvancedrecycling](https://corporate.exxonmobil.com/sustainability-and-reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-cycle#Strengtheningcircularitywithadvancedrecycling).

environmental, plant, animal, and human health risks.

11. ExxonMobil has admitted that “advanced recycling” is a “fundamentally uneconomic process.”⁵ Ultimately, “advanced recycling” is simply a rebranding effort designed to divert attention from the inability to safely dispose single-use plastics.

12. Instead of disclosing the lack of any solution to dispose single-use plastics, ExxonMobil hid the truth about single-use plastics to sell more virgin polymers and plastics. For example, ExxonMobil invented and sold single-use plastic products such as “Hefty” brand trash bags and falsely marketed them as biodegradable. Those products were not biodegradable. Nor were they recyclable. Nevertheless, ExxonMobil misleadingly promoted these products as environmentally friendly and touted them as replacements for paper and cloth products, which are actually more sustainable.



13. In addition, over the last several decades, ExxonMobil has opposed reasonable regulation of single-use beverage containers and packaging, stymied state-by-state regulation of single-use plastic bags and straws, and initiated half-hearted recycling measures. Consequently, ExxonMobil has successfully delayed stricter regulations and enforcement while exponentially increasing the production of virgin polymers for single-use plastics. ExxonMobil’s immense plastic profits correlate to environmental degradation.

14. As a result of ExxonMobil’s conduct, consumers have expanded their use of plastics—based in part on the false notion that single-use plastic can be recycled or safely disposed. In fact, the demand for plastic has exponentially **increased the production and use of virgin plastic**, which

⁵ *Fraud of Plastic Recycling Report*, available at <https://climateintegrity.org/uploads/media/Fraud-of-Plastic-Recycling-2024.pdf> (internal citation omitted).

undermines the claim that plastic products have a circular and environmentally safe lifespan.

15. The overproduction of nonrecyclable single-use plastics has inundated California, clogged and hampered the State’s recycling processes, and leached toxic materials into the environment. The harm to California’s residents and its environment is substantial. California taxpayers spend over \$520 million annually on trash cleanup programs and services. And volunteers spend thousands of hours cleaning plastics from the State’s iconic beaches and waterways every year.



Photo from Surfrider Beach cleanup in California.

16. Single-use plastics pollution hits beaches and the ocean particularly hard because an estimated 11 million metric tons (12.1 U.S. tons) of plastics enter our waterways annually.⁶ Once in the water, plastics do not biodegrade, but instead break down into “microplastics” or even smaller particles known as “nanoplastics,” and the toxic materials from the additives and chemicals in those micro- and nano- plastics leach into the water resulting in harm to plants, wild life, and humans. Microplastics are so prolific that an individual can ingest approximately five grams of plastic every week—the mass of a credit card.⁷

17. Dozens of research studies in the past decade have shown that microplastics are known to harm people. For example, one study published recently in the New England Journal of Medicine found

⁶ *Plastic Pollution; Background*, available at <https://state.gov/key-topics-office-of-environmental-quality-and-transboundary-issues/plastic-pollution/>.

⁷ *Id.*

microplastics in almost every part of the human body, including the lungs and stomach.⁸ The same research suggests that the presence of microplastics may increase the risk of heart attack and other cardiovascular problems among people with heart disease.⁹ The tiny plastics were also found to double the risk of stroke or heart attack and harm hormone and reproductive systems.¹⁰ Microplastics are capable of passing through the blood/brain barrier and have been identified in most human organs, in human penile tissue, and in atherosclerotic plaques.¹¹



Photo from Surfrider following a recent rain at Ballona Creek in Los Angeles, California

18. Single-use plastic pollution is also responsible for significant harm to California's natural environment, including gastrointestinal problems in marine life, soil damage, and groundwater and surface water poisoning. For example, a recent study found that a quarter of fish at California markets contained plastic in their guts, mostly in the form of plastic microfibers.¹²

19. Californians have been directly harmed by ExxonMobil's conduct. For example, Plaintiffs Sierra Club, Surfrider, Heal the Bay, and Baykeeper, are all nonprofit organizations with missions to prevent the harm caused by single-use plastics and plastic pollution. Due to ExxonMobil's conduct, each Plaintiff has diverted a significant amount of resources to combat the impact of ExxonMobil's nuisance

⁸ "Microplastics and Nanoplastics in Atheromas and Cardiovascular Events," available at <https://nejm.org/doi/full/10.1056/NEJMoa2309822>.

⁹ *Id.*

¹⁰ *Id.*

¹¹ *Id.*

¹² *Plastic for Dinner: A Quarter of Fish Sold at Markets Contain Human-Made Debris*, available at <https://ucdavis.edu/news/plastic-dinner-quarter-fish-sold-markets-contain-human-made-debris>.

1 and unfair business practices. Plaintiffs' efforts include public education, legislative efforts, policy
2 advocacy, and thousands of hours and millions of dollars to clean up single-use plastics pollution from
3 the California environment. Plaintiff Heal the Bay also suffers a special injury, because the aquarium it
4 operates for the public in Santa Monica, California, is directly and continuously impacted by single-use
5 plastic pollution. This ongoing and pervasive nuisance, caused by ExxonMobil's misconduct and
6 products, harms Heal the Bay's business and property daily, causing significant physical and economic
7 damage to Heal the Bay and its operations.



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20 *Photo from Heal the Bay Beach cleanup in Santa Monica, California.*

21 20. Accordingly, Plaintiffs seek to ensure that ExxonMobil is held accountable for the single-
22 use plastics pollution crisis it has created and the injuries caused to each of Plaintiffs and to all
23 Californians.

24 **II. JURISDICTION AND VENUE**

25 21. This Court has personal jurisdiction over ExxonMobil because it is a vertically integrated
26 company that purposely availed itself of the California market at all stages of sourcing, developing,
27 manufacturing, and selling single-use plastics. As such, ExxonMobil has availed itself of the benefits of
28 the laws of the State, during all times relevant to this complaint, so as to render California's exercise of

personal jurisdiction over ExxonMobil consistent with traditional notions of fair play and substantial justice.

22. This Court has jurisdiction over this action under 28 U.S.C. 1332(a)(1),¹³ as named plaintiffs are nonprofit organizations, each incorporated and headquartered in the State of California. Defendant ExxonMobil is incorporated in the State of New Jersey and headquartered in Spring, Texas. Plaintiffs assert state law claims of private and public nuisance and violation of California Business & Professions Code § 17200 (“UCL”) on behalf of themselves and the California public against ExxonMobil’s acts that have and will continue to cause injuries in California. The amount in controversy exceeds the sum or value of \$75,000.

23. Venue is proper in this District under 28 U.S.C. § 1391(b)-(c) because ExxonMobil does business in this District and a substantial part of the events or omissions giving rise to the claims occurred in the Northern District of California.

III. THE PARTIES

A. Plaintiffs

1. Sierra Club

24. Plaintiff Sierra Club is a California 501(c)(4) nonprofit organization first incorporated in 1892 and headquartered in Oakland, California, serving 17 California regions and satellite offices.

25. At all relevant times, Sierra Club has and continues to divert its resources to combat the injuries caused by ExxonMobil’s continuing proliferation of single-use plastic, including legislative efforts at the state and local level within California to reduce plastic pollution, educating the public through town hall meetings, and publications in its magazine, SIERRA MAGAZINE, about concerns related to plastic pollution.

2. Surfrider

26. Plaintiff The Surfrider Foundation (“Surfrider”) is a California 501(c)(3) nonprofit organization headquartered in San Clemente, California with 17 chapters throughout California and approximately 80 chapters throughout the United States.

27. At all relevant times, Surfrider has and continues to divert its resources to combat the

¹³ Plaintiffs’ remand motion was denied on February 24, 2025. (Dkt. 27).

injuries caused by ExxonMobil's continuing proliferation of single-use plastics, including legislative efforts at the state and local level within California to reduce plastic pollution, organizing volunteer beach cleanups to remove plastic pollution from the shorelines, public education about plastic pollution, and outreach with hotels and restaurants to reduce the use of single-use plastics. Surfrider's mission is the protection and enjoyment of the world's ocean, waves, and beaches for all people. Surfrider members are harmed by single-use plastic pollution when recreating in the ocean, waves, and beaches of California and beyond. They regularly encounter single-use plastic pollution at their beach cleanups and when recreating.

3. Heal the Bay

28. Plaintiff Heal the Bay is a California 501(c)(3) nonprofit organization headquartered in Santa Monica, California.

29. At all relevant times, Heal the Bay has and continues to divert its resources to combat the injuries caused by ExxonMobil's continuing proliferation of single-use plastic, including legislative efforts at the state and local level within California to reduce plastic pollution, public education and outreach, and cleanups of beaches, storm drain systems, and local waterways to prevent plastic from polluting the environment.

30. Heal the Bay also leases property located at 1600 Ocean Front Walk, Santa Monica, California, where it operates the Heal the Bay Aquarium. As a result of ExxonMobil's conduct, Heal the Bay has suffered (1) injuries to human health, (2) injuries to marine health, (3) offense to the visual, physical, olfactory, and other senses, and (4) interference with the use and enjoyment of Heal the Bay's real property. Heal the Bay has been forced to use its resources to regularly clear its property of single-use plastic and install and maintain a water filtration system to protect its aquarium, marine life, and other contents.

4. Baykeeper

31. Plaintiff Baykeeper is a California 501(c)(3) nonprofit organization first incorporated in 1989 and headquartered in Oakland, California.

32. At all relevant times, Baykeeper has and continues to divert its resources to combat the injuries caused by ExxonMobil's continuing proliferation of single-use plastic, including policy advocacy efforts at the state and local level within California to reduce plastic pollution, organizing volunteer beach

cleanup efforts to remove plastic from creeks, rivers, and the shoreline before it enters San Francisco Bay, investigation of industry and local government practices leading to plastic pollution, and other public education and engagement initiatives, including monitoring and research, such as trawling for ocean microplastics and measuring Bay shoreline plastic pollution.

B. Defendant

33. Defendant ExxonMobil Corporation is incorporated in the State of New Jersey and headquartered in Spring, Texas. ExxonMobil trades on the New York Stock Exchange under the ticker symbol “XOM.” ExxonMobil is a vertically integrated company that manufactures and markets its products in the United States and most other countries of the world through divisions and affiliated companies. ExxonMobil is the world’s largest producer of polymers to make single-use plastic.¹⁴

34. ExxonMobil extracts or extracted oil and gas in California, which is the main feedstock for single-use plastic, including at the Santa Ynez Unit off the coast of Santa Barbara County, an onshore oil and gas processing facility in Goleta, California, at a petroleum storage and transport facility in San Ardo, California, and through a joint venture for oil and gas exploration with Aera Energy, which is headquartered in Bakersfield, California. Additionally, ExxonMobil previously owned and operated oil refineries in Torrance, California, and Benicia, California.

35. ExxonMobil owns subsidiaries in California that develop plastic additives and chemicals, including Materia Inc. in Pasadena, California.

36. ExxonMobil operated single-use plastic packaging plants in California, including Bakersfield, California (polystyrene foam trays); Woodland, California (polyethylene film products); Santa Ana, California; and Azusa, California.

37. ExxonMobil directly and specifically targets Californians with advertisements and marketing relating to its products, including single-use plastics and recycling.

38. ExxonMobil injures California and its citizens at every stage of the plastic life cycle, including pollution from oil and gas extraction; refining; manufacturing of plastics, plastic polymers, and plastic additives and chemicals; the sale of plastics into California; misinformation regarding the safe

¹⁴ *Plastics Waste Makers Index 2023*, available at <https://cdn.minderoo.org/content/uploads/2023/02/04205527/Plastic-Waste-Makers-Index-2023.pdf>.

disposal of plastics; and the resulting harms caused by plastic and single-use plastic pollution.

C. Doe Defendants 1-10

39. The true names and capacities of Doe Defendants 1–10, inclusive, are currently unknown to Plaintiffs. Each Doe Defendant, individually and collectively, is responsible in some manner for the unlawful acts alleged in this complaint. Plaintiffs will seek leave of this Court to amend this complaint to reflect the true names and capacities of Doe Defendants when their identities become known.

IV. FACTUAL ALLEGATIONS

A. Single-Use Plastics Cannot be Safely Disposed

1. Single-Use Plastics are Derived from Oil

40. Ninety-nine percent of plastics are derived from fossil fuels such as natural gas and oil. Companies like ExxonMobil extract fossil fuels and apply processes to create polymers, such as ethylene and propylene, which are the building blocks of plastics.



41. Six primary “virgin” polymers account for over 90% of all plastics—polypropylene (PP); high-density polyethylene (HDPE); low-density polyethylene (LDPE); linear low-density polyethylene (LLDPE); polyethylene terephthalate (PET), and polystyrene (PS). These six primary virgin polymers are also classified by “resin” type. Plastic resin types are identified by resin codes 1 through 7 (“nos. 1-7”), commonly placed in the center of a “chasing arrows” symbol on consumer products.

42. ExxonMobil produces polyethylene terephthalate (no. 1) and polyethylene polymers (nos. 2, 4, 5, and 6).

43. Indeed, ExxonMobil’s website is awash with statements extolling the many products that are made with its plastic polymers, including single-use products like plastic nos. 1, 2, 4, 5, and 6 food

and beverage packaging, trash bags, shrink wrap, and shipping plastics.¹⁵ The following types of single-use plastic packaging are manufactured and prominently marketed on ExxonMobil's website:

Packaging

Look to ExxonMobil Product Solutions for new, lighter-weight plastic packaging films that help you do more with less and move your primary or secondary packaging to a more sustainable future. We supply packaging polymers and expertise to solve a variety of packaging challenges with leading-edge polyethylene (PE) and polypropylene (PP) resins, polymer modifiers and performance polymers. These solutions help contain, protect and promote your product, even in highly demanding conditions like freezers, all the way from the factory to store shelves and beyond.

[Product selector](#)

[Related webinars](#)

[Contact us](#)



Adhesives and sealants

Adhesives formulators can count on ExxonMobil Product Solutions for products, supply reliability and expertise to help improve their products, processes and cost efficiency.

[Learn more >](#)



Bags and sacks

ExxonMobil Product Solutions performance polymers offer significant advantages for the high-speed production of medium-to-heavy-duty sacks suitable for a broad range of primary and secondary packaging applications.

[Learn more >](#)



Caps, seals and closures

Reliable supply of a broad range of polypropylene resins for soft drink and water bottle caps and closures, and packaging for cosmetics, drugs, food products and condiments.

[Learn more >](#)



Containers, cups and tubs

Achieve™ Advanced PP, ExxonMobil™ PP and a variety of our polyethylene packaging grades are designed for high performance and affordability across a wide range of container applications.

[Learn more >](#)



Collation shrink packaging

Collation shrink packaging films formulated with performance polyethylene polymers combine outstanding packaging integrity with optimal clarity and gloss for enhanced brand promotion.

[Learn more >](#)



Compression packaging

High integrity packaging films with superb shelf appeal using Exceed™ XP, Exceed™ and Enable™ performance PE polymers.

[Learn more >](#)



Compounding for food and beverage containers

Excellent for airtight seals, Vistamaxx™ performance polymers and Exact™ plastomers keep food fresh and protect aromas while offering cost-effective packaging.

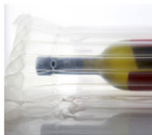
[Learn more >](#)



Compounding for rigid packaging

Vistamaxx™ performance polymers and Exact™ plastomers can improve impact strength and clarity to create durable and appealing products.

[Learn more >](#)



E-commerce packaging

Performance polymers are used for high performance primary packaging that can withstand the most demanding environments and offer manufacturers downgauging opportunities.

[Learn more >](#)



Flexible food packaging

From production to consumption, our performance PE solutions are ideal for high-integrity food packaging essential to protecting and preserving the integrity of consumer food products.

[Learn more >](#)



Insulated food and beverage packaging

Eliminate trade-offs and unlock new, sustainable opportunities in insulated food and beverage packaging with unexpectedly affordable, foamable Achieve™ Advanced PP.

[Learn more >](#)



Lamination tubes

ExxonMobil Product Solutions performance polymers can be used in solutions for lamination tube applications, offering an optimal balance of properties.

[Learn more >](#)



Liquid packaging

ExxonMobil Product Solutions provides a range of products that deliver peak performance in sealing, flexibility, impact resistance and properties critical for liquid-packaging applications. These products include performance PE polymers, Vistamaxx™ performance polymers and specialty polypropylene resins.

[Learn more >](#)



Shoppers, liners and trash bags

Lower the cost and thickness of your high-density polyethylene (HDPE) shopping and garbage bag films without compromising strength.

[Learn more >](#)

¹⁵ *Solutions by Industry, Packaging*, available at <https://exxonmobilchemical.com/en/solutions-by-industry/packaging>.

2. Single-Use Plastics Cannot be Safely Landfilled

44. Single-use plastics, after being used just once, predominantly end up “on landfill sites where they take around 300 years to photodegrade. During that time, they break down into tiny toxic particles that contaminate the soil and waterways and enter the food chain when animals accidentally ingest them.”¹⁶ Year-over-year, landfills receive ever increasing amounts of plastic *on top* of the landfilled plastic from previous years, which is demonstrated in the table below:

1960-2018 Data on Plastics Received in Landfills by Weight (in thousands of U.S. tons)¹⁷

Year	1960	1970	1980	1990	2000	2005	2010	2015	2018
Landfilled	390	2,900	6,670	13,780	19,950	23,270	24,370	26,030	26,970

45. The two main byproducts of a landfill are leachate and gases.¹⁸ Leachates are the liquids that drain or “leach” from a landfill and are formed when liquid travels through a solid and removes some components of that solid with it.¹⁹ Although landfills occasionally contain liners designed to protect the subsoil from the contents of a landfill, leachate still manages to permeate into soil and groundwater. At the same time, gases slowly emanate from underneath a landfill’s protective layers and topsoil, and rise into the atmosphere. While the liquids and gases escaping landfills from natural and biodegradable products are unpleasant and odious, they ultimately present little harm beyond the odor. However, landfills hold the potential to be extremely harmful when plastics are present. This is because during the production process, toxic chemicals called “additives” are added to plastic to give it certain characteristics like color, flexibility, or heat/UV resistance. As plastics degrade in California’s landfills, they leave these toxic chemicals into the environment.

46. Plastics are especially injurious because they do not *biodegrade*; they *degrade*. During degradation, plastics “break down into smaller and smaller pieces of plastics called microplastics.”²⁰

¹⁶ *Plastics: Material-Specific Data*, available at <https://epa.gov/facts-and-figures-about-materials-waste-and-recycling/plastics-material-specific-data>.

¹⁷ *Id.*

¹⁸ “*Plastic Waste Degradation in Landfill Conditions: The Problem with Microplastics, and Their Direct and Indirect Environmental Effects*,” available at <https://ncbi.nlm.nih.gov/pmc/articles/PMC9602440/>.

¹⁹ Oxford English Dictionary Result, available at <https://oed.com/search/dictionary/?scope=Entries&q=leachate>.

²⁰ “*The Truth About Plastics That End Up in Landfills*,” available at <https://bionaturplastics.com/news/the-truth-about-plastics-that-end-up-in-landfills>.

1 These microplastics are so tiny they can escape into the environment through the leachate and gases the
2 landfill releases.

3 47. Further, due to their incredibly small size, microplastics are quickly transported over long
4 distances, affecting not just local surroundings but often the environment as a whole. The U.S. National
5 Library of Medicine, which hosts the National Center for Biotechnology Information, found that plastic
6 waste around active and former landfills is a significant source of microplastics in our environment and,
7 ultimately, our food.²¹

8 48. In a separate study by the U.S. National Library of Medicine, the National Center for
9 Biotechnology Information “revealed that the leachate from solid waste dumps is the primary source of
10 microplastics in groundwater.” The study states that “the leachate from dumps” and landfills “cause
11 higher microplastic pollution” in soil and “the groundwater system.” Further, the “areal extent of solid
12 waste dumping was observed to have an influence on the abundance of microplastics.”²²

13 49. In 2022, scientists conducted a separate study researching the levels of microplastic
14 polymers found in groundwater wells both upstream and downstream of a landfill. Their study found that
15 “microplastic concentrations were on average higher in the landfill groundwater than in the alluvial
16 [upstream] one.”²³ Obviously, drinking water should not include microplastics.

17 50. As a result of this plastic pollution, the average person consumes 70,000 microplastics each
18 year.²⁴ Even more frighteningly, microplastics can break down further into nanoplastics, which may enter
19 cells and potentially disrupt cellular activity. As more and more research is being done to understand the
20 harmful and long-term effects of ingesting microplastics, scientists have found disruption in reproduction,
21 digestion, and organ inflammation.²⁵ One alarming new study in 2024 found that every single human
22

23 ²¹ “*Plastic Waste Degradation in Landfill Conditions: The Problem with Microplastics, and Their Direct*
24 *and Indirect Environmental Effects*,” available at <https://ncbi.nlm.nih.gov/pmc/articles/PMC9602440/>.

25 ²² “*Implications of solid waste dumps on the microplastic abundance in groundwater in Kollam, India*,”
available at <https://pubmed.ncbi.nlm.nih.gov/37837760/>.

26 ²³ “*May a Former Municipal Landfill Contaminate Groundwater in Microplastics? First Investigations*
27 *from the ‘Prairie de Mauves Site,’*” available at <https://mdpi.com/2673-8929/2/1/7>.

28 ²⁴ “*The Truth About Plastics That End Up in Landfills*,” available at
<https://bionaturplastics.com/news/the-truth-about-plastics-that-end-up-in-landfills>.

²⁵ *Id.*

testicle in the study contained microplastics.²⁶ CNN reported that the alarming presence of microplastics calls for immediate action, as “we’re now just realizing how much plastic is in our bodies.”

51. Beyond the harmful effects on humans, the presence of microplastics in the environment “has been shown to have numerous hazardous effects on a wide range of floral and faunal species.”²⁷ Akin to how microplastics invade the human body, they can infiltrate plants and animals, causing detrimental effects. Finally, microplastics are carriers of various “co-contaminants, such as heavy metals, brominated flame retardants and other types of plasticizers, and pharmaceutical toxicants.”²⁸

52. Accordingly, the inclusion of plastics in landfills is an ongoing harm to plants, animals, humans, and the environment.

3. Single-Use Plastics are not Recyclable

53. The virgin polymers that ExxonMobil produces enjoy massive economies of scale, while the price reflects none of the externalities, like safely managing discarded plastic or the injuries to people and the environment as a result of plastic pollution. It is, therefore, almost always cheaper to produce new single-use plastics from fossil fuels rather than reuse or recycle them. Indeed, the 100 largest polymer producers all continue to rely almost exclusively on “virgin” feedstocks or raw materials.

54. Ultimately, less than 10% of all plastic (and only 1-2% of single-use plastics)²⁹ is recycled—the 90% plus remaining ends up in landfills, incinerators, or as littered pollution in the environment.³⁰

55. California’s success with recycling single-use plastics is no better. From 2019 to 2022, plastic resin no. 3 was recycled 1% on average, no. 4 was recycled 4% on average, no. 6 was recycled

²⁶ “Tiny plastic shards found in human testicles, study says,” available at <https://cnn.com/2024/05/21/health/microplastics-testicles-study-wellness/index.html>.

²⁷ “Plastic Waste Degradation in Landfill Conditions: The Problem with Microplastics, and Their Direct and Indirect Environmental Effects,” available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9602440/>.

²⁸ *Plastic Waste Degradation in Landfill Conditions: The Problem with Microplastics, and Their Direct and Indirect Environmental Effects*,” available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9602440/>.

²⁹ *Plastics Waste Makers Index 2023*, available at <https://cdn.minderoo.org/content/uploads/2023/02/04205527/Plastic-Waste-Makers-Index-2023.pdf>.

³⁰ *A whopping 91% of plastic isn’t recycled*, available at <https://nationalgeographic.com/science/article/plastic-produced-recycling-waste-ocean-trash-debris-environment>.

20% on average, and no. 7 was recycled 7% on average.³¹ Additionally, single-use plastics, if recycled at all, are almost never recycled more than once. Accordingly, new single-use plastics is almost always made from fossil fuel-based virgin plastic³²—*i.e.*, not made from any recycled materials.

56. Even plastics that can be “recycled” are not recycled in the way one expects. For example, plastic resin no. 1, if recycled, most often does not get reused in a no. 1 product. Most often, recycled no. 1 plastic is “downcycled” into fleece or carpet fiber.³³ Downcycling may potentially save resources and delay landfilling, but eventually, downcycled materials become waste.³⁴ According to a report by the Ellen MacArthur Foundation, in 2013, only 14% of global plastic packaging was collected for recycling, and of that percentage, 8% was downcycled and 4% was lost during the process.³⁵ Only 2% was effectively recycled into a product of equal or higher value.³⁶

57. The failure of recycling is due to recycling’s multistep process that requires ample financial resources, careful planning, and coordination.³⁷

58. The first step in the process is to collect recyclable material via a garbage collection service, provided the consumer can identify and separate their recyclable waste from nonrecyclables beforehand.

59. Once recyclables are collected by a government-sponsored garbage collection program, they are sent to a recycling facility where plastics are further separated by polymer type, color, and other characteristics to maintain a high degree of purity in the recycled material and ensure that the facility can use them. Many single-use plastics are made of different plastic polymers as well as different materials—such as paper, metals, or adhesives. It is impractical—if not impossible—to separate these different

³¹ *CA Recycling Commission AB1583: Recyclability Screening Survey*, available at <https://docs.google.com/spreadsheets/d/1YqzG21E-6308t4wmUvowcQnzPwURZfjY/edit#gid=286584372>.

³² *Recycling in the U.S. Is Broken. How Do We Fix It?*, available at <https://news.climate.columbia.edu/2020/03/13/fix-recycling-america/>.

³³ *Recycling Strategies: Downcycling and Upcycling Explained*, available at <https://cleanrobotics.com/recycling-strategies-downcycling-and-upcycling-explained/>.

³⁴ *Recycling vs. Downcycling*, available at <https://medium.com/working-for-change/stop-calling-it-recycling-41ad4983b896>.

³⁵ *Recycling Myth of the Month: That plastic bottle you thought you recycled may have been ‘downcycled’ instead*, available at <https://oceana.org/blog/recycling-myth-month-plastic-bottle-you-thought-you-recycled-may-have-been-downcycled-instead/>.

³⁶ *Id.*

³⁷ *The ImpEE Project*, available at <http://www-g.eng.cam.ac.uk/impee/topics/RecyclePlastics/files/Recycling%20Plastic%20v3%20PDF.pdf>.

components for recycling. Because recycling centers often specialize in the type of plastic they recycle, a portion of collected plastics are sent back for resorting followed by yet another distribution to alternative facilities.

60. Even products made of a single polymer often cannot be recycled together because they include different chemical additives or colorants. For example, green PET bottles cannot be recycled with clear PET bottles.



61. At a recycling facility, once the various types of plastic are properly sorted by resin, items are washed to get rid of non-plastic components such as labels and leftover food particles. After this, the cleaned plastic is cut into smaller pieces to make it easier to work with and is then tested for qualities like density, thickness, melting point, and color. Density is tested by submerging particles in water to determine whether they float or sink; thickness, or “air classification” testing involves placing pieces in a “wind tunnel” and observing whether they rise or fall. When all of this has been completed, the plastic is finally ready for compounding, which is the step that melts the pieces into plastic pellets to be later re-melted and combined with other pellets to create finished products.

62. The collection process itself is time-intensive and costly.³⁸ Moreover, the entire process is highly sensitive to error, especially during the sorting stages. If incompatible polymers are accidentally mixed together, the batch becomes “contaminated” and is unusable. For example, “PET and PVC have many problems with cross contamination as the two polymers appear very similar to the naked eye and

³⁸ *The ImpEE Project*, available at <http://www-eng.cam.ac.uk/impee/topics/RecyclePlastics/files/Recycling%20Plastic%20v3%20PDF.pdf>.

1 share the same specific gravity . . . just one PVC bottle in a batch of 10,000 can ruin the entire melt.”³⁹
 2 Furthermore, plastic regularly uses partial or full body shrink sleeve labels on PET and HDPE bottles and
 3 jugs to improve shelf appeal.⁴⁰ These sleeves prevent proper sorting and harm the operations of PET
 4 bottle recyclers and processors.⁴¹

5 63. The complexity of the process described above means the cost of producing recycled
 6 plastic is much higher than producing virgin plastic, and therefore plastic recycling is not economically
 7 viable. The recycling process requires more time, labor, and equipment to achieve a lower quality and less
 8 efficient output than the process of making virgin resin from fossil fuels. The petrochemical companies’
 9 increased production of virgin resins further ensures that recycled resins cannot compete and that plastic
 10 recycling is not economically viable.

11 64. The toxicity of plastic and its chemical additives further limits the recyclability of plastic.
 12 Many plastics contain toxic additives such as stabilizers, plasticizers, coatings, catalysts and flame
 13 retardants. Plastic waste may be further contaminated through curbside collection of containers for
 14 pesticides, cleaning solvents and other household items. As plastics degrade through use and the recycling
 15 process, they begin to leach these toxic substances. For this reason, a vast majority of plastic products
 16 cannot be recycled into food-grade packaging, food-contact surfaces, or other high-contact products.

17 65. Even if all steps in the recycling process are carried out successfully, the unfortunate truth
 18 is that most plastic items can only be recycled once. For the more durable plastics such as bottle caps, they
 19 may be recycled twice, *at most*.⁴²

20 66. California’s recycling facilities fare no better, as is demonstrated in the table below:

RECYCLING CENTER	SERVICE AREA	PLASTIC NOS. 3-7
Southern California		
Central Los Angeles Recycling Center	LA County	Does not accept nos. 3, 4, 6, 7
Southland Disposal Center	Glendale, Burbank, Pasadena, and unincorporated Los Angeles	Accepts nos. 3, 4, 6, and 7, but states that they may not be recycled

25 ³⁹ *Id.*

26 ⁴⁰ *Circular Claims Fall Flat*, available at https://greenpeace.org/usa/plastic_recycling

27 ⁴¹ *Id.*

28 ⁴² *Plastic Pollution*, available at <https://ourworldindata.org/plastic-pollution#how-much-of-ocean-plastics-come-from-land-and-marine-sources>.

Sacramento		
Sacramento County's Department of Waste Management and Recycling	Sacramento	Does not accept nos. 4, 5, 6, 7
Northern California		
Zarc Recycling Center	San Francisco Bay Area	Does not accept nos. 3, 4, 5, 7
Our Planet Recycling	San Francisco	Does not accept nos. 3, 4, 5, 6, 7
ReThink Waste	Belmont, Burlingame, East Palo Alto, Foster City, Menlo Park, Redwood City, San Mateo, Atherton, Hillsborough, San Mateo County, and West Bay Sanitary District	Accepts nos. 3, 4, 5, 6, 7, which are then sent to landfill

67. For example, the Central Los Angeles Recycling Center, which collects for cities within Los Angeles County, does not take plastic nos. 3, 4, 6, or 7.⁴³ The Southland Disposal Center, which collects for the cities of Glendale, Burbank, Pasadena, and unincorporated Los Angeles County,⁴⁴ accepts nos. 3, 4, 6, and 7, but states that they may not be recycled.⁴⁵

68. Sacramento stopped accepting plastic nos. 4 to 7 due to lack of value and difficulty in recycling.⁴⁶

69. Zarc Recycling Center, which collects for businesses in the San Francisco Bay Area, only accepts plastics that are within the scope of the California Buy Back Program (commonly only nos. 1 and 2 plastics), and styrofoam plastic (commonly no. 6 plastic), but does not take plastic nos. 3, 4, 5, or 7.⁴⁷ Likewise, Our Planet Recycling, San Francisco, which collects for the city of San Francisco, only accepts nos. 1 and 2 plastics, but does not accept plastic nos. 3 to 7.⁴⁸

70. ReThink Waste, which collects for the cities of Belmont, Burlingame, East Palo Alto, Foster City, Menlo Park, Redwood City, and San Mateo, the towns of Atherton and Hillsborough, the

⁴³ *Blue Bin Recycling*, available at https://lacitysan.org/san/faces/home/portal/s-lsh-wwd/s-lsh-wwd-s/s-lsh-wwd-s-r/s-lsh-wwd-s-r-rybb?_adf.ctrl-state=2jkb0ozqu_736&_afLoop=38247638933526470#!.

⁴⁴ *Service Areas*, available at <https://southlanddisposal.com/service-areas/>.

⁴⁵ *Recycling Information Guide*, available at <https://southlanddisposal.com/wp-content/uploads/2023/11/3Recycling-Guide-1.pdf>.

⁴⁶ *Circular Claims Fall Flat: Comprehensive U.S. Survey of Plastics Recyclability*, available at https://greenpeace.org/usa/plastic_recycling.

⁴⁷ *CRV Redemption*, available at <http://zarcrecycling.com/crv.html>.

⁴⁸ *What we Take*, available at <https://ourplanetsf.com/>.

County of San Mateo, and the West Bay Sanitary District,⁴⁹ sorts out plastic nos. 1 and 2, and then any plastic nos. 3 to 7 are directed to a transfer station in San Carlos and sent to the landfill.⁵⁰

71. Even if plastic nos. 3 to 7 are accepted for recycling by a materials recovery facility, it is difficult to determine whether these products are actually recycled. For instance, the city of Palo Alto recently discovered that even though all plastic items are accepted for recycling, things get murky as soon as recycled goods leave town.⁵¹ In Palo Alto, the city's hauler, GreenWaste Recovery, brings local recyclable materials to its materials recovery facility in San Jose, where items are combined with tossed goods from other communities, separated by type and baled. The materials are then marketed to brokers, who ship them off to various destinations around the world.⁵²

72. Palo Alto required GreenWaste Recovery to report on the disposition of recyclable materials as well as to gather information on the environmental and social implications associated with the processing of Palo Alto's recyclable materials.⁵³ As a result of Green Waste Recovery's reporting, Palo Alto learned that the marketing of recyclable materials is commonly conducted through brokers that orchestrate the processing of materials internationally. This leaves many unknowns and raises questions about whether the international processing facilities are recycling the materials and if the processing and disposal are causing environmental or social issues.⁵⁴ Despite the lack of information, most of the recyclable materials continue to be exported, most to unknown destinations. GreenWaste Recovery reported that about 61% of the 164,651 tons that GreenWaste Recovery recovered from local plastic material in 2021 went abroad, while 39% went to domestic markets.⁵⁵ However, GreenWaste Recovery

⁴⁹ *Id.*

⁵⁰ *The Hard Facts About Plastic*, available at <https://rethinkwaste.org/wp-content/uploads/2019/10/The-Hard-Facts-About-Plastic.pdf>.

⁵¹ *Where do your recyclables go? Palo Alto struggles to track their destination as material heads abroad*, available at <https://paloaltoonline.com/news/2022/01/28/where-do-your-recyclables-go-palo-alto-struggles-to-track-their-destination-as-material-heads-abroad#>.

⁵² *Id.*

⁵³ *Informational Report on the GreenWaste of Palo Alto Certificate of End Use & Traceability Report and Update on Council Direction Regarding Recyclable Materials*, City of Palo Alto, City Council Staff Report, January 24, 2022, available at <https://www.cityofpaloalto.org/files/assets/public/v/1/zero-waste/cmrs/cmr-13535.pdf>.

⁵⁴ *Id.*

⁵⁵ *Id.*

reports are generalized and do not explain which shipments go to which facilities within those countries. Therefore, it is impossible to determine whether the materials are being recycled.⁵⁶

73. This report demonstrates how unstructured the recycling market can be. As the report notes “[b]rokers only have limited information about the ports to which commodities are intended to ship. Once at the ports, materials are sent to various plants, making the full lifecycle of commodities extremely difficult to track.”⁵⁷ “Furthermore, with the current state of the markets, recyclables brokers are not in a position to place requirements on customers.” The report also notes how the “information on commodity markets, pricing, buyers and other information pertaining to commodity sales transactions constitute confidential and proprietary corporate Trade Secrets.” For these reasons, the report provides that “it has been quite a challenge to try to determine additional information regarding the final disposition of recovered recyclables.”⁵⁸

74. ReThink Waste, a public agency that operates a materials recovery facility in San Carlos, California, sums up the reality of the plastic nos. 3 to 7 market, stating “[t]here is currently no market for the material when it is deconstructed.”⁵⁹

75. According to How2Recycle’s Guidelines for Use, “[m]aterials that do not have an end market cannot be considered recyclable.”⁶⁰ Due to the complexities of the recycling markets, companies like ExxonMobil cannot guarantee or state with certainty that its single-use plastic products, particularly plastic nos. 3 to 7, have an end market.

4. Single-Use Plastics Cannot be Safely Disposed by “Advanced Recycling”

76. Incineration is the “process of burning hazardous materials at temperatures high enough to destroy contaminants.” For certain materials, incineration is a safe alternative to burying contaminated wastes in landfills, and when utilized correctly, it can be far more effective.⁶¹

77. However, incineration has significant downsides, especially when plastics are involved.

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

⁵⁹ *Shoreway Environmental Center, South Bay Recycling*, available at <http://www.sbrecycling.net/>.

⁶⁰ *Guidelines for Use*. How2Recycle. February 2020 to July 2020. Bates Number PGEearth00000104.

⁶¹ *A Citizen’s Guide to Incineration*, available at https://epa.gov/sites/default/files/2015-04/documents/a_citizens_guide_to_incineration.pdf.

Burning plastic not only releases microplastics into the environment and “climate change-accelerating gases” but also releases “carcinogens like lead, mercury, dioxins and furans, fine particulate matter, carbon monoxide, nitro oxides, arsenic, polychlorinated biphenyls (PCBs), and brominated polyaromatic hydrocarbons (PAHS),” all of which possess the ability to cause serious health effects.⁶² The U.S. National Institute of Environmental Health Sciences finds that burning plastic can “generate and release pollutants like microplastics, bisphenols, and phthalates—all toxins that can disrupt neuro development, endocrine, and reproductive functions.”⁶³ In sum, burning plastic significantly pollutes the environment and has the ability to cause serious human health risks.

78. Similarly, “advanced recycling” is just another form of incineration. “Advanced recycling,” sometimes called “chemical recycling,” is a term created by the petrochemical industry that describes breaking plastics down to its chemical components, usually through exposure to extreme heat or chemical solvents. Coined in 2017, “advanced recycling” was promoted by the plastics industry as its newest “solution” to the plastic waste crisis; however, the claims “significantly overstat[e] and misrepresent[] its potential as a means to justify rapidly expanding plastic production.”⁶⁴

79. Fundamentally, whatever it is called, “advanced recycling” is not recycling because it does not result in the manufacture of new plastic products. Rather, by exposing plastic waste to extreme heat or chemicals, typically through a process referred to as pyrolysis, advanced recycling creates an unrefined oil byproduct—as well as hazardous waste byproducts.

80. Advanced recycling processes can produce significant pollution and energy consumption, with some studies finding such processes generate more greenhouse gases than either landfilling or incinerating plastics.⁶⁵

81. Advanced recycling is not efficient. For example, as the industry itself has explained, the

⁶² *Burning Plastic is Not a Recycling Solution; It’s More Pollution*, available at <https://oceana.ca/en/blog/burning-plastic-is-not-a-recycling-solution-its-more-pollution/>.

⁶³ *Burning plastic can affect air quality, public health*, available at <https://factor.niehs.nih.gov/2022/8/science-highlights/burning-plastic>.

⁶⁴ *Fraud of Plastic Recycling Report*, available at <https://climateintegrity.org/uploads/media/Fraud-of-Plastic-Recycling-2024.pdf>.

⁶⁵ *Exxon doubles down on ‘advanced recycling’ claims that yield few results*, available at <https://theguardian.com/environment/2022/may/11/exxon-advanced-recycling-plastic-pollution-investigation>.

energy resulting from the fuel produced by “advanced” recycling “is very much less than the energy used to manufacture the polymer in the first place.” In the 1980’s, scientific papers noted the “loss of efficiency and emission potential” of pyrolysis “presented an obvious limitation.” Another article declared “destructive technologies, such as incineration and pyrolysis, are quite wasteful.” In 2003, a long-time plastics industry consultant described “plastic-to-plastic chemical recycling” as “another example of how non-science got into the minds of industry and environmental activists alike.” Chemical recycling, he explained, was “thermodynamically enviro-negative . . . Didn’t anyone know this already? . . . It’s disgraceful either way – either people knew it was an energy loser and didn’t want to let it be known, or else they didn’t bother to figure it out at all.” Only 1 to 14% of plastic material that is processed through “advanced recycling” can be used to make a new plastic product. “The remaining 86-99% is used to fuel the advanced recycling system or turned into oil or waste products.”⁶⁶

82. Moreover, early science confirmed that “the same constraints that apply to mechanical recycling apply” in the context of “advanced” recycling. Scientists observed that to produce a usable oil, “very pure” plastic stock would be required, and that “advanced” recycling was subject to “the same constraints that bedeviled all plastics recycling processes.” “[T]he “[s]eparation of plastics from [municipal solid waste] is neither technologically nor economically feasible at the present time, and will probably not be so in the future.” A decade later, it was “difficult to see at this time to foresee the building of full-scale plants to pyloryze municipal refuse.”

83. Recovering resins through “advanced recycling” is more expensive than using virgin resins, rendering the process economically unfeasible.⁶⁷ In 2020, the Global Alliance for Incinerator Alternatives issued a report identifying 37 facilities that claimed to be “using” chemical recycling technologies—of those only three were operational and none were successfully producing new plastic.⁶⁸ Additional reports have found the same:

Investigations by Reuters and the Natural Resources Defense Council have

⁶⁶ *Technical, Economic, and Environmental Comparison of Closed-Loop Recycling Technologies for Common Plastics*, available at <https://pubs.acs.org/doi/pdf/10.1021/acssuschemeng.2c05497>.

⁶⁷ *Energy & Environmental Science*, available at <https://pubs.rsc.org/en/content/articlepdf/2023/ee/d3ee00749a>.

⁶⁸ *All Talk and No Recycling: An Investigation of the U.S. “Chemical Recycling” Industry*, available at https://no-burn.org/wp-content/uploads/All-Talk-and-No-Recycling_July-28.pdf.

produced similar findings. The numerous chemical recycling facilities that the industry has publicly announced since 2017 have mostly turned out to be plastic-to-fuel facilities, years behind schedule, or abandoned altogether. A recent report published by Beyond Plastics and IPEN likewise found that, despite the plastics industry's alleged commitments, only 11 chemical recycling facilities have been built in the U.S.—of those, just four are fully operational. Even if the 11 facilities were fully operational, however, the report concluded that their combined capacity represented just 1.3% of the plastic waste produced in the U.S. each year.⁶⁹

84. A 2023 study estimated that recovering resins through “advanced recycling” is more expensive than using virgin resins, rendering the process economically unfeasible.⁷⁰

85. Advanced recycling is unproven and unworkable at any scale that could have even a marginal impact on California's single-use plastic pollution crisis. But this truth has not dissuaded ExxonMobil from touting “advanced recycling” to assuage and ultimately distract a concerned public.

5. Single-Use Plastics Inevitably Become Pollution

86. Single-use plastic accounts for all plastics consumed globally. However, only 1 to 2 % of all single use plastic is made from recycled material.

87. Fast food items are the most common form of single-use plastic pollution. No fast food plastic service item is recyclable anywhere in the United States or most countries in the world.⁷¹ Plastics are not compostable. As a result, these fast food plastic items become waste and ultimately end up as pollution in the environment.

88. Fast food plastic service items dominate the top 10 items found in beach, river and community cleanups in California. Based on data collected by Surfrider, nearly all of the top items found at beach cleanups are made from plastic.⁷²

89. From 2019 through 2022, Surfrider conducted approximately 1,890 beach cleanups in California. In 2022 alone, Surfrider conducted approximately 1,201 beach cleanups across the country, including 582 in California. Among the items collected and recorded during Surfrider's 2022 beach cleanups were 45,205 large plastic fragments, 27,276 bottle caps and/or rings, 39,815 small plastic

⁶⁹ *The Fraud of Plastic Recycling*, available at <https://climateintegrity.org/uploads/media/Fraud-of-Plastic-Recycling-2024.pdf> (internal citation omitted).

⁷⁰ *Energy & Environmental Science*, available at <https://pubs.rsc.org/en/content/articlepdf/2023/ee/d3ee00749a>.

⁷¹ *The Last Beach Cleanup*, available at <https://lastbeachcleanup.org/nofastfoodplastic>.

⁷² *Surfrider Results*, available at <https://cleanups.surfrider.org/results/>.

fragments, 15,343 nurdles, 39,126 small foam fragments, 14,087 plastic bottles, 35,591 plastic food wrappers, 14,033 plastic straws, 148,505 cigarette butts, and 31,146 large foam fragments. Eighty-seven percent of all items collected and recorded during Surfrider's beach cleanups in 2022 were plastic.

TOP ITEMS COLLECTED



90. Surfrider generally records data regarding each one of its beach cleanups. For example, on June 29, 2024, Surfrider conducted a beach cleanup at Ocean Beach in San Francisco. Seventy-five volunteers collected approximately 100 pounds of trash. The items collected largely consisted of single-use plastics, including plastic cups, plastic bottles, plastic lighters, dog poop bags, and cigarette butts.



91. The world's population consumed 139 million metric tons (153.2 U.S. tons) of single-use plastic in 2021. "This increase in plastic production leads to an increase in plastic pollution. This poses a

FIRST AMENDED COMPLAINT, Case No. 3:24-cv-07288-RS

major threat to our oceans and marine life. An estimated 33 billion pounds of plastic enter the marine environment every year. That's two-garbage truck's worth of plastic that enters the ocean every minute, according to Oceana." ExxonMobil knew that single-use plastics are more likely to become pollution.⁷³ Many single-use plastic products and packaging materials are lightweight and not properly disposed. Instead, they are "[d]ropped on the ground, thrown out of a car window, heaped onto an already full trash bin, or inadvertently carried off by a gust of wind, they immediately begin to pollute the environment."⁷⁴ As ExxonMobil reported as far back as 1996, "[t]he polyethelene terephthalate (PET) recycling rate declined to 631 million pounds from its record 1995 high of 645 million pounds. A contributing factor includes the significant grown in the use of single-serve PET bottles that are often consumed on-the-go and are less likely to be recycled."

92. Scientists estimate that between 16 and 40 million pounds of plastic enter the ocean annually. At this rate, plastic is set to outweigh fish in the ocean by 2050.⁷⁵ Because single-use plastics (like those manufactured by ExxonMobil) do not biodegrade and contain multiple additives, scientists have observed significant declines in ocean health.



⁷³ Briscoe Document, Exxon Chemical, *Status Report: 1996 Recycling Rates*, Inside Exxon Chemical, August 1997, at 2. . "Briscoe Document __", referred to throughout this complaint, refers to documents obtained from the ExxonMobil Historical Collection, available at the Briscoe Center for American History, University of Texas at Austin.

⁷⁴ *Plastic Pollution*, available at <https://britannica.com/science/plastic-pollution>.

⁷⁵ *The New Plastic Economy: Rethinking the future of plastics*, available at http://www3.weforum.org/docs/WEF_The_New_Plastics_Economy.pdf; *Stemming the Tide of Plastic*, available at <https://law.ucla.edu/centers/environmental-law/emmett-institute-on-climate-change-and-the-environment/publications/stepping-the-tide-of-plastic-marine-litter/>.

93. Plastic alters the chemical composition of the ocean when it breaks apart into smaller pieces.⁷⁶ It releases toxic chemicals into the surrounding water, changing the water's chemical makeup.⁷⁷ Potential pollutants released through this process include bisphenol A and PS oligomer, two known hormone disruptors.⁷⁸ Plastic particles also act as magnets for toxins to attach themselves to.⁷⁹ In particular, pollutants such as polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs) are frequently observed in the presence of five mass-produced types of plastic found in the ocean.⁸⁰ Exposure to noxious chemicals within plastic's chemical makeup (many of which are added to the polymers by ExxonMobil) such as dichloro-diphenyl-trichloroethane ("DDT") have been shown to have "adverse health outcomes such as breast cancer, diabetes, decreased semen quality, spontaneous abortion, and impaired neurodevelopment in children."⁸¹

94. Plastic's pervasiveness within marine ecosystems also negatively impacts human bodies.⁸² According to recent research, microplastics are abundant in human water supplies. On average, a single person ingests up to 1,769 particles of plastic per week from water alone.⁸³ The report concludes that, due to the presence of microplastics in human food and water sources, an individual can ingest approximately five grams of plastic every week—the mass of a credit card.⁸⁴

95. Creatures most notably affected by plastic pollution include fish, seabirds, marine mammals, and reptiles.⁸⁵ A UN fact sheet accompanying the 2017 Ocean Conference approximates that

⁷⁶ *Plastics in oceans decompose, release hazardous chemicals, surprising new study says*, available at <https://acs.org/content/acs/en/pressroom/newsreleases/2009/august/plastics-in-oceans-decompose-release-hazardous-chemicals-surprising-new-study-says.html>.

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Long-Term Field Measurement of Sorption of Organic Contaminants to Five Types of Plastic Pellets: Implications for Plastic Marine Debris*, available at <https://pubmed.ncbi.nlm.nih.gov/23270427/>.

⁸⁰ *Id.*

⁸¹ *Human Health Consequences of DDT Use*, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2737010/>.

⁸² *Plastic & Health: the Hidden Costs of a Plastic Planet*, Center for International Environmental Law, available at <https://ciel.org/plasticandhealth/>.

⁸³ *No Plastic in Nature: Assessing Plastic Ingestion from Nature to People*, available at https://awsassets.panda.org/downloads/plastic_ingestion_press_singles.pdf.

⁸⁴ *Id.*

⁸⁵ *Marine Debris: Understanding, Preventing and Mitigating the Significant Adverse Impacts on Marine and Coastal Biodiversity*, available at <https://cbd.int/doc/publications/cbd-ts-83-en.pdf>

up to 1 million seabirds perish each year due to problems resulting from plastic waste, and some studies warn that as much as 99% of all seabirds will have swallowed plastic by 2050.⁸⁶

B. ExxonMobil Long Knew that Single-Use Plastics’ Fundamental Characteristics Make them Technically and Economically Impossible to Safely Dispose

96. Since the 1970s, ExxonMobil knew that the two main characteristics of single-use plastic, its inability to biodegrade and its ability to readily combine with additives and chemicals, made plastics impossible to safely dispose.

97. In 1971, ExxonMobil’s predecessor, Mobil, explained that, unlike paper or glass, plastic does not biodegrade in the soil to its natural state, but does break down in sunlight and weather to become ever smaller pieces of microplastics or nanoplastics. Mobil stated: “Within the definition ‘to break down through biological action,’ [polystyrene] foam is not biodegradable, although foam products will break down and ultimately disintegrate with exposure to sunlight and weather.”⁸⁷

98. As early as 1973, ExxonMobil’s internal files show that it knew plastic could become biodegradable with the simple addition of starch.⁸⁸ However, ExxonMobil refused to make biodegradable single-use plastics. As the Technical Director of the Society of the Plastics Industry explained about the industry, plastics are “extremely useful and desirable largely because of their nondegrading qualities.”⁸⁹ “If bacteria could successfully attack the packaging material after it is thrown away, it could just as easily attack before then.”⁹⁰

99. All plastics consist of chemicals. Plastics contain more than 16,000 chemicals, with at least 4,200 of those considered to be “highly hazardous” to human health and the environment.⁹¹ Additionally, “the release of chemicals from plastics has been documented in a multitude of studies, especially in plastic

⁸⁶ *Factsheet: Marine Pollution*, available at https://sustainabledevelopment.un.org/content/documents/Ocean_Factsheet_Pollution.pdf.

⁸⁷ Briscoe Document, Mobil Chemical Company, *We Want You to Know*, January 1971 at 2.

⁸⁸ Briscoe Document, *Making Plastic Rot*, TIME MAGAZINE, August 6, 1973; Briscoe Document, *A Plastic that Decays*, TIME MAGAZINE, August 18, 1975 at 63.

⁸⁹ Briscoe Document, Christine Duerr, *Plastics is Forever: Our Nondegradable Treasures*, OCEANS, November 1980 at 60.

⁹⁰ *Id.*

⁹¹ *Toxic plastic chemicals number in the thousands, most are unregulated, report finds*, available at <https://cnn.com/2024/03/14/health/toxic-unregulated-chemicals-report-wellness>.

1 food contact materials, that is, plastics used to store, process or package food.⁹²

2 100. ExxonMobil has known this for nearly fifty years. For example, “as a major supplier of
3 plastic packaging products for the baking industry,” Mobil began in 1972 “offering bread bags printed
4 solely with lead-free inks” in light of “recent speculation about the health aspects of leaded inks” which
5 prompted “a number of baking firms” to reassess its position about the additional cost of lead free inks,
6 “particularly when reds, oranges and yellow were required.”⁹³ Mobil Chemical, however, continued to
7 offer bags with leaded inks, along with its new line.⁹⁴ Also, in a 1976 internal newsletter, an Exxon
8 toxicologist acknowledged that high exposure to vinyl chloride in PVC (a plastic used to make children’s
9 toys) “is likely to produce adverse effects” in humans.⁹⁵

10 101. Additionally, internal non-public documents show that, as early as 1990, ExxonMobil’s
11 predecessor was routinely testing its products for “environmental safety” by performing “generic testing,
12 clinical chemistry, and pathological evaluation, helping Mobil maintain the highest standards.”⁹⁶
13 ExxonMobil’s predecessor also stated: “To ensure that product testing pays off in maximum benefits to
14 the environment, Mobil maintains what may be the industry’s most comprehensive centralized product-
15 information data base.... Our safety outreach programs for customer and distributors, including more than
16 200 seminars each year, helps guarantee the environmentally safe use and disposal of Mobil products.”⁹⁷

17 102. However, despite its knowledge of the harmful effects of plastic, and its ongoing testing of
18 these products, ExxonMobil buried the truth about the harms that single-use plastics can cause while also
19 continuing to defend the use of toxic additives for decades.⁹⁸

20 **C. Despite Knowing Single-Use Plastics Cannot be Safely Disposed, ExxonMobil’s**
21 **Business Model Aims to Increase the Production of Virgin Polymers**

22 103. ExxonMobil’s business model was aimed at replacing paper, glass, and other

23 ⁹² *State of the science on plastic chemicals*, available at <https://plastchem-project.org/>.

24 ⁹³ Briscoe Document, Mobil Chemical Company News Release, August 4, 1972.

25 ⁹⁴ *Id.*

26 ⁹⁵ Brisco Document, Robert A. Scala, *Toxicology: Reducing the Risks*, HORIZONS, November 1976 at 3.

27 ⁹⁶ Briscoe Document, *Mobil’s Continuing Environmental Covenant*, 1990 at 4.

28 ⁹⁷ *Id.*

⁹⁸ Briscoe Document, Exxon Chemical, Phthalates Update A Risk or Not a Risk, Inside Exxon Chemical, February 1999 at 1.

1 biodegradable, reusable, and recyclable packaging with its own single-use plastics.

2 104. ExxonMobil's predecessor created the Mobil Chemical Company division in 1960 to make
3 higher returns by developing consumer downstream uses for its basic crude oil. As ExxonMobil's
4 predecessor stated in 1966: "chemical companies create and meet an ever-widening range of consumer
5 needs" that "represents an additional outlet for crude oil" and attract "a higher return than on petroleum
6 operations alone."⁹⁹ ExxonMobil intended to mix the "building blocks" of ethylene, propylene, and
7 butadiene with other chemicals to produce "packaging for consumer goods" with the knowledge that the
8 composition and uses of single-use plastic would have to meet demand as "chemical products and
9 manufacturing processes go out of date quickly," and "product demand changes quickly in chemicals."¹⁰⁰

10 105. ExxonMobil's predecessor celebrated that: "Plastics have largely replaced glass, aluminum
11 and paper as packaging material,"¹⁰¹ including (1) "Hefty" brand garbage bags to replace unlined garbage
12 bins; (2) "Hefty" plates and cutlery to replace reusable plates and cutlery; (3) Mobilware, a line of "single-
13 use tableware for schools, hospitals, and convenience restaurants" (4) BICOR film to replace wood-based
14 cellophane; (5) plastic foam egg cartons to replace paper egg cartons; (6) the "Baggies" line of sandwich
15 bags for Colgate to replace paper wrapping; and (7) meat trays rather than butcher paper, among other
16 things.¹⁰²

17 106. When customers began shifting to biodegradable products out of concern that single-use
18 plastic could not be safely disposed or recycled, ExxonMobil misleadingly promoted the safe disposal and
19 recyclability of its products to sell more *virgin* plastic polymers. ExxonMobil's internal documents reveal
20 their strategy: "Our recycling programs continue to concentrate on generating income and enhancing the
21 acceptability of our products."¹⁰³ "And as recycling programs prove they work, we expect demand for
22

23 ⁹⁹ Briscoe Document, H.J. Schmidt, Remarks at the International Division General Managers Meeting,
London, *Mobil Oil Corporation in Perspective*, United Kingdom, June 17, 1966, at 13.

24 ¹⁰⁰ Briscoe Document, *Mobil Chemical Company Formed*, MOBIL MANAGEMENT NEWSLETTER, June 20,
1960 (Special) at 1.

25 ¹⁰¹ Briscoe Document, ExxonMobil Corporation, *The Case for Plastics Packaging*, THE LAMP: AN
26 EXXONMOBIL PUBLICATION, 2008, at 8.

27 ¹⁰² Briscoe Document, Mobil Chemical Company, *A Letter from the President*, October 25, 1968, at 2-3;
id., Mobil Chemical Company, *A Letter from the President*, October 20, 1969, at 2-3; *id.*, Mobil
28 Chemical Company, *A Letter from the President*, November 15, 1971, at 2-3.

¹⁰³ Briscoe Document, Mobil Chemical Today, Undated at 21 (approximately 1992).

our products to grow.”¹⁰⁴

107. Today, ExxonMobil partners with and supplies the polymers to many companies that produce single-use plastic, including Berry Global, one of the world’s leaders in food packaging and overwrap films.¹⁰⁵ Berry Global, in turn, manufactures plastic products for companies like Taco Bell¹⁰⁶ and Wendy’s.¹⁰⁷ Berry Global also produces plastic (derived from ExxonMobil polymers) for the following brands, shown in the figure below, which sell products in single-use plastic:¹⁰⁸



108. ExxonMobil also partners with Amcor,¹⁰⁹ which produces single-use plastics for StonyField,¹¹⁰ Vitaminwater,¹¹¹ Tyson Foods,¹¹² Procter & Gamble, Colgate, Unilever, Nestlé, Pepsico,

¹⁰⁴ Briscoe Document, Mobil Chemical Today, Undated at 15 (approximately 1993).

¹⁰⁵ *From plastic waste to valuable food packaging*, available at <https://exxonmobilchemical.com/en/solutions-by-industry/packaging/cups-containers-and-tubs/exxtend-berry-plastics>.

¹⁰⁶ *New Cup with Post-Consumer Recycled Plastic in Partnership with Taco Bell*, available at <https://berryglobal.com/en/news/articles/13921-berry-global-develops-innovative-new-cup-with-post>

¹⁰⁷ *Wendy's, Berry Global, LyondellBasell Collaborate to Improve Cup Recyclability; Introduce New, Industry-Leading Clear Drink Cup*, available at <https://berryglobal.com/en/news/articles/13941-wendys-berry-global-lyondellbasell-collaborate-to>.

¹⁰⁸ *Berry Global: Undervalued Packaging Business With 50+% Upside*, available at <https://seekingalpha.com/article/4215354-berry-global-undervalued-packaging-business-50-upside>.

¹⁰⁹ *Amcor increases use of advanced recycling materials leveraging ExxonMobil's Exxtend™ technology*, available at <https://amcor.com/media/news/amcor-to-leverage-exxonmobil-exxtend-technology>.

¹¹⁰ *Amcor collaborates with Stonyfield Organic and Cheer Pack North America to launch first all-PE spouted pouch*, available at <https://amcor.com/media/news/amcor-stonyfield-cpna-spouted-pouch>.

¹¹¹ *Collaboration and innovation recognised as Amcor secures three awards in DuPont Packaging Awards 2017*, available at <https://amcor.com/media/news/collaboration-and-innovation-recognised-as-amcor-secures-three-awards-in>.

¹¹² *Amcor honored with eight Flexible Packaging Association Achievement Awards*, available at <https://proxy.amcor.com/media/news/2024-fpa-awards>.

1 Coca-Cola, Keurig, and Dr. Pepper.¹¹³

2 109. Due in part to the partnerships with Berry Global and Amcor, since 2019, ExxonMobil has
3 been the world's number one contributor to single-use plastic waste.¹¹⁴ ExxonMobil has 58 assets
4 producing these types of polymers, with new plants set for development and completion within the next
5 five years. In 2025, ExxonMobil expects to complete its Corpus Christie complex, which will be the
6 largest integrated PET/PTA facility in the world, producing 2.4 billion pounds a year of PET and another
7 2.8 billion pounds a year of purified PTA.¹¹⁵

8 110. Because of the world's critical need to reduce greenhouse gases, ExxonMobil faces
9 increasing scrutiny of and downward pressure on its other major market for oil—fossil fuel production.
10 ExxonMobil, along with the petrochemical industry generally, seeks to mitigate this loss by redirecting
11 oil to polymer production for single-use plastic.

12 111. Today, ExxonMobil extols single-use plastics as “increasingly society’s material of
13 choice.” With “global population ...expected to increase by 25% by 2050, and []prosperity projected to
14 rise in both the developed (OECD) and developing (non-OECD) economies around the world...[p]lastics
15 will be instrumental in...good health, food preservation and clean drinking water.” Current industry
16 estimates predict polymer production will triple over the next 50 years.

17 **D. ExxonMobil Knowingly Misrepresented the Technical and Economic Feasibility of**
18 **Single-Use Plastics Disposal**

19 **1. ExxonMobil Knew Single-Use Plastics Cannot be Safely Landfilled**

20 112. Since the inception of Exxon Chemical and Mobil Chemical in the 1960s, ExxonMobil has
21 long known that single-use plastic cannot be safely disposed. To combat the growing recognition of the
22 harmful collateral effects of single-use plastic, in November 1970, the Plastics Division of Mobil
23 Chemical Company formed the misnomered “Environmental Protection Group” because “a considerable
24

25 ¹¹³ *Amcor: Strong Supplier of Packaging For Brands Leading Brands*, available at
<https://seekingalpha.com/article/4565232-amcor-strong-supplier-packaging-leading-brands>.

26 ¹¹⁴ *Plastic Waste Makers Index*, available at
27 <https://cdn.minderoo.org/content/uploads/2021/05/27094234/20211105-Plastic-Waste-Makers-Index.pdf>.

28 ¹¹⁵ *Corpus Christi Polymer Resumes Construction of PTA/PET Plant*, available at
<https://ptonline.com/news/corpus-christi-polymer-resumes-construction-of-ptapet-plant->.

1 amount of misinformation about plastic packaging materials has found its way into the news media
 2 recently, as well as into the offices of store management.”¹¹⁶ Absent that marketing tactic, ExxonMobil’s
 3 predecessor, Mobil Corporation, realized that it would fail in replacing the market for paper, glass,
 4 aluminum, and other biodegradable packaging.

5 113. Beginning in the 1960s, when Mobil’s plastic foam egg cartons and meat trays competed
 6 with paper egg cartons and meat trays, Mobil falsely contended that landfilling plastic was more
 7 environmentally friendly than paper: Polystyrene foam meat trays and egg cartons “can be disposed of
 8 easily and safely” and “offer a number of environmental advantages when compared with other packaging
 9 materials.”^{117, 118}

10 114. Mobil argued that its single-use plastic such as egg cartons and meat trays: (1) occupied
 11 less volume in a landfill and “compress to a fraction of their original size when packed in a sanitary
 12 landfill;”¹¹⁹ (2) reduces transportation costs; and (3) generates fewer air emissions, water pollutants and
 13 waste during manufacturing.¹²⁰ Mobil stated: “Consumers these days lug home 60 percent of their
 14 groceries in plastic sacks. That’s good for the environment, and the good is about to get better. Plastic
 15 grocery sacks are an environmental plus. They have one-tenth of the bulk of paper bags and therefore take
 16 up less room in landfills.”¹²¹

17 115. Indeed, Mobil contended that single-use plastic’s inability to degrade was a *benefit*. It
 18 stated: “But there is some question as to whether biodegradability is beneficial. When a material degrades,

19 ¹¹⁶ Briscoe Document, Mobil Chemical Company News Release, November 17, 1970, at 1.

20 ¹¹⁷ Briscoe Document, Mobil Chemical Company News Release, January 12, 1971; Briscoe Document,
 21 The Society of the Plastics Industry, Foam Tray and Caron Division, *What You Should Know About
 Plastic Meat Trays and Egg Cartons—and the Environment*, 1971 (pamphlet).

22 ¹¹⁸ And even as late as 2005, ExxonMobil contended that compared to paper, plastic’s lower weight
 23 offers better fuel mileage. ExxonMobil also stated that, compared to paper, plastic has less volume and
 accordingly took up less space than landfills. Briscoe Document, ExxonMobil Corporation, *Improving
 Environmental Performance of Our Products*, 2005 CORPORATE CITIZENSHIP REPORT, at 28.

24 ¹¹⁹ Briscoe Document, Thomas Kennel, Environmental Protection Engineer, Mobil Chemical Company,
We Want You to Know, January 1971 (pamphlet).

25 ¹²⁰ Briscoe Document, Mobil Corporation, *Truth, Fiction, and Solid Waste*, NEW YORK TIMES, July 28,
 26 1988 (“Waste disposal is, in truth, a volume problem, not a materials problem. Plastic grocery bags, fast-
 food foam containers, and similar products account for less than one half of one percent of the solid
 27 waste stream.”) (“Paper bags, for example, typically are six times bulkier than plastic and take up six
 times the space in landfills.”).

28 ¹²¹ Briscoe Document, Mobil Corporation, *Recycling: The Momentum Grows*, NEW YORK TIMES, May
 17, 1990.

1 it releases products of decomposition that could contaminate water supplies. Degradation also changes the
 2 physical characteristics of a material and may cause instability in a landfill. This limits the uses that can
 3 be made of the area after the landfill is complete. Foam, on the other hand, does not decompose readily
 4 and provides a stable, clean fill, even in quantities far beyond today's levels."¹²²

5 116. By misleadingly comparing the environmental benefits of plastic over paper in a landfill,
 6 ExxonMobil accomplished its primary goal—compete with and replace paper packaging and other
 7 biodegradable products with its single-use plastic packaging. In doing that, ExxonMobil hid the fact that
 8 (1) because plastic does not biodegrade in the soil, plastic would become an ever-increasing proportion of
 9 landfill volume: from 3 percent in 1971 to 20 percent by 1991.¹²³ ExxonMobil also hid the fact that toxins
 10 and pollution were released as plastic degraded over time.

11 **2. ExxonMobil Knew Single-Use Plastics Could Not be Technically or** 12 **Economically Recycled**

13 117. ExxonMobil openly admits in its website content that “Plastic pollution is growing
 14 relentlessly and recycling falls short.”¹²⁴ It publicly relies upon studies that confirm that the “bulk of
 15 plastic waste ends up ‘in landfills, incinerated or leaking into the environment, with only 9 percent being
 16 successfully recycled.’”¹²⁵ ExxonMobil concedes the “rising demand for circularity from customers and
 17 consumers far exceed[s] the supply that mechanical recycling can provide.”¹²⁶

18 118. Exxon has understood these limitations for decades. In 1972, ExxonMobil's predecessor
 19 explained the fundamental problems of mechanical recycling:

20 . . . less than 2 percent of today's municipal waste is recycled. Why? Mainly
 21 because of the cost. To get just a small amount of the material you want,
 you have to sift through tons of trash you don't want. And when you get

22 ¹²² Briscoe Document, Thomas Kennel, Environmental Protection Engineer, Mobil Chemical Company,
 23 We Want You to Know, January 1971 (pamphlet).

24 ¹²³ See Briscoe Document, Mobil Corporation, *The Environment: Plastics Recycling*, LEGISLATIVE
 25 ISSUES, June 6, 1991; Briscoe Document, Mobil Corporation, *Bumper Sticker Wisdom?*, NEW YORK
 TIMES, March 4, 1993; Briscoe Document, J.V. D'Ambrisi, Remarks at the University of Virginia
 Engineering Department, *Engineering & the Environment*, Mobil Corporation, February 21, 1990.

26 ¹²⁴ *Expanding the plastics life cycle*, available at <https://corporate.exxonmobil.com/sustainability-and-reports/sustainability/creating-sustainable-solutions/expanding-the-plastics-life-cycle#Responsiblemanufacturingtherightproductstherightway>.
 27

28 ¹²⁵ *Id.*

¹²⁶ *Id.*

1 enough of it, you have to ship it to a plant where it can be scrubbed. Or
 2 purified. Or refined. Or upgraded. And then – maybe – you’ll have a raw
 3 material almost as good as the nice, clean stuff a supplier can deliver to your
 4 factory door for a lot less money.¹²⁷

5 119. By the 1980s, ExxonMobil’s predecessors understood that it needed to market single-use
 6 plastics in a way that would calm consumers’ concerns about pollution. In particular, ExxonMobil
 7 recognized that it would lose money from its single-use plastic products given the increasing consumer
 8 demand for environmentally friendly products. ExxonMobil then decided to promote recycling as a viable
 9 option, despite having admitted years before that mechanical recycling was not technically or
 10 economically feasible.

11 120. Suddenly, mechanical recycling was no longer onerous—the same process that was
 12 previously described as “onerous,” was now described as requiring only a “few simple steps.” As the
 13 National Polystyrene Recycling Corporation, which was owned by ExxonMobil’s predecessor Mobil,
 14 stated in 1989:

15 Recycling polystyrene is a highly automated and efficient process that does
 16 not rely on expensive or experimental technology. . . It has taken only the
 17 addition of a few simple steps to make post-consumer recycling of
 18 polystyrene a reality. Here is the eight-step process. The material is 1.
 19 Delivered and inspected for quality; 2. Washed to remove residual food
 20 particles; 3. Ground into pieces; 4. Dried; 5. Melted; 6. Filtered; 7. Molded
 21 into pellets; 8. Cooled.¹²⁸

22 121. But as internal documents show, ExxonMobil also observed that by describing the
 23 recycling process as “simple,” downward regulatory pressure would force it to do more of the impossible:
 24 “On local levels, future legislation will create a much stricter regulatory environment in the next century.
 25 Emissions from industry will be severely reduced and offsite waste disposal options will also be severely
 26 limited, forcing industries into ‘zero emission’ facilities. ‘Green’ products (which can demonstrate
 27 reduced environmental impact) will expand into the marketplace. This includes reduced use of toxic
 28 compounds, more recyclable and reusable packaging and more efficient technology.”¹²⁹

127 Briscoe Document, Mobil Oil Corporation, *A Primer on Solid Waste*, MOBIL WORLD, May 1972, at pp 3-4.

128 Briscoe Document, National Polystyrene Recycling Company, *Protecting the Future by Re-Using Our Natural Resources*, Undated (approximately 1990), at p. 8.

129 Briscoe Document, Mobil Research, Engineering & Environmental Affairs, *Technology Strategies for the 21st Century*, May 1992, at 14.

122. As these quotes suggest, ExxonMobil took a three-pronged approach to increase its profits from the sale and use of single-use plastics.

123. *First*, rather than company-only “environmental groups,” the industry coalesced to form trade organizations to lobby regulators and convince the public that its single-use plastic was environmentally friendly. Those organizations include the Plastics Recycling Foundation, Partnership for Plastics Progress, National Polystyrene Recycling Company, Chemical Manufacturer’s Association, American Chemistry Council, American Plastics Counsel, and the Society of Plastics,¹³⁰ among others.

124. ExxonMobil lauded these trade associations’ abilities to “unif[y] their state government affairs operations to build on what was already one of the most effective industry state advocacy programs in the country [and s]peak with one voice on important policy issues increases the states’ ability to promote legislative and regulatory policies that address issues critical to plastics manufacturers, processors and users.”¹³¹ ExxonMobil further praised these trade associations’ abilities to help “unaware” consumers understand “plastics’ contribution to better living and environmental sustainability,” by explaining that “many plastics are easily recyclable.”¹³²

125. *Second*, ExxonMobil promoted mechanical recycling as “simple” and effective, while also seeking exemptions from any meaningful regulations. This approach is exemplified by ExxonMobil’s (and trade associations’) nearly simultaneous lobbying efforts to Congress.¹³³ In an internal 1991 memorandum, ExxonMobil’s predecessor advocated for the following:

Mobil Chemical believes plastics recycling for many products can eventually pay its own way – and thus avoid mandated ‘solutions’ which may well put producers out of business, and Americans out of jobs. If plastic packaging requirements are legislated, however, they would be less harmful

¹³⁰ Briscoe Document, Exxon Chemical, *Plastics Power*, Inside Exxon Chemical, August 1997, at 2; Briscoe Document, ExxonMobil Corporation, *Making Life Better with Plastics*, THE LAMP, 2013 v.2, at 2; Briscoe Document, Exxon, *Products from The World of Chemicals*, undated, at 62; Briscoe Document, Mobil Corporation, *So Much Success, So Far to Go*, NEW YORK TIMES, JUNE 6, 1991; Briscoe Document, Mobil Chemical, *MOBIL CHEMICAL TODAY*, undated (approximately 1992), at 22; Briscoe Document, Plastics Recycling Foundation, *ANNUAL REPORT*, 1988, at 9-10;; *see also Fraud of Plastic Recycling Report*, available at <https://climateintegrity.org/uploads/media/Fraud-of-Plastic-Recycling-2024.pdf>.

¹³¹ Briscoe Document, Exxon Chemical, *Plastics Power*, Inside Exxon Chemical, August 1997, at 2.

¹³² Briscoe Document, ExxonMobil Corporation, *Making Life Better with Plastics*, THE LAMP, 2013 v.2, at 6.

¹³³ Briscoe Document, Mobil Corporation, *The Environment: Plastics Recycling*, LEGISLATIVE ISSUES, JUNE 6, 1991.

if the following elements were incorporated.

- adequate lead times should be given – for example, 4-5 years to attain a 25% industry-wide recycling rate for **plastic bottles and rigid packaging only**;
- flexibility should be given to the industry to meet mandated recycling requirements by various means, including development technologies to take plastics back to their raw materials;
- **exemption from recycling requirements for plastics that will have food contact should be granted**;
- **longer-term recycling rates or content requirements should not be set until initial goals are met and evaluated**;
- federal standards should preempt state and local so manufacturers are not faced with a maze of conflicting requirements in various jurisdictions;
- federal, state and local governments must provide adequate plastics collection, so as to ensure sufficient supply should industry be required to use a fixed level of recycled materials;
- waste-to-energy incineration should be recognized as one of the necessary waste management solutions, and complementary to recycling;
- product bans or other discriminating restrictions should be avoided.¹³⁴

126. *Third*, ExxonMobil’s predecessor engaged with the consumer in multiple ways, including by falsely claiming that certain single-use plastic was biodegradable when in fact it was not, such as its “Hefty” brand trash bags, resulting in settlements with the Federal Trade Commission and the attorneys general for seven states.¹³⁵

127. ExxonMobil’s predecessor also asserted in publications like the New York Times that it had long engaged in plastics recycling. For example, in 1983, Mobil claimed: “As for plastics being polluters in a ‘throwaway’ society don’t you believe it. Many plastics can be recovered, processed and then turned into new products.”¹³⁶ ExxonMobil’s employees additionally went to schools to present

¹³⁴ *Id.*

¹³⁵ Briscoe Document, Mobil Chemical Company News Release, March 29, 1990; Briscoe Document, Jennifer Lawrence, *Mobil Case Study*, ADVERTISING AGE, January 29, 1991, at 12-13.

¹³⁶ Mobil Oil Corporation, *Observations*, NEW YORK TIMES, undated (approximately 1982) (emphasis in original).

1 students with a film produced by the American Plastics Council to “learn that plastic packaging uses less
2 of our precious resources to make and transport than other materials like paper, glass and steel,” and then
3 talk “ “about plastics recycling and how recycled plastic is used as raw material for other products like
4 park benches, camping gear, backpacks and even some clothes.”¹³⁷

5 128. Meanwhile, in 2005, ExxonMobil admitted in internal documents that mechanical
6 recycling faced severe obstacles given that the material does not biodegrade and is combined with an
7 infinite multitude of additives and chemicals. It stated, “coated films have historically been sent to landfills
8 because they could not be reprocessed on site.”¹³⁸ “Currently, plastic waste of varying composition must
9 be sorted and separated before it can be reprocessed. We’re working on several potential ‘compatibilizers’-
10 polymers that can homogenize assorted plastics into quality resins without presorting.”¹³⁹ However,
11 “[l]arge-scale recycling requires overcoming the problems of collection and preparation.”¹⁴⁰ “The
12 problems with recycling on a large scale after use by the consumer involve collection and cleaning, not
13 processing or recyclability.”¹⁴¹

14 129. The bottom line for ExxonMobil, however, was not to increase the recyclability of its
15 products. Instead, it wanted to give the appearance that it was doing enough about mechanical recycling
16 to increase the sale and production of virgin polymers for single-use plastics. In fact, ExxonMobil’s
17 internal documents said the quiet part out loud: “Our recycling programs continue to concentrate on
18 generating income and enhancing the acceptability of our products.”¹⁴² “And as recycling programs prove
19 they work, we expect demand for our products to grow.”¹⁴³

20 130. Said another way, this was one of the earlier instances of greenwashing. “Greenwashing is
21 the act of making false or misleading statements about the environmental benefits of a product or practice.
22 It can be a way for companies to continue or expand their polluting as well as related harmful behaviors,

23 ¹³⁷ Briscoe Document, Nancy Connelly, *Exxon Chemical’s Science Education Outreach Makes the*
24 *Grade A+ : Where Science Gets Down to Business*, INSIDE EXXON CHEMICAL, September 1997, at 2.

25 ¹³⁸ Briscoe Document, ExxonMobil Corporation, 2005 CORPORATE CITIZENSHIP REPORT, at 33.

26 ¹³⁹ Briscoe Document, Mobil Chemical Today, Undated at 12 (approximately 1991).

27 ¹⁴⁰ Briscoe Document, Mobil Corporation, DISCUSSION BOOK FOR SOLID WASTE, 1989, at 8.

28 ¹⁴¹ Briscoe Document, Mobil Chemical Company News Release, May 19, 1988.

¹⁴² Briscoe Document, Mobil Chemical, MOBIL CHEMICAL TODAY, undated (approximately 1992), at 21.

¹⁴³ Briscoe Document, Mobil Chemical Today, Undated at 15 (approximately 1993).

all while gaming the system or profiting off well-intentioned, sustainably minded consumers.”¹⁴⁴

131. ExxonMobil has long known and understood that consumers “highly value products made from recycled materials that are also recyclable at the end of their lifecycle.” A large majority of consumers believe that products made from recycled materials are of equal quality to those made from virgin resources.¹⁴⁵

132. Accordingly, consumers rely heavily on environmental information. For example, 78% of consumers look at recycling information on a product, and 82% of those consumers trust what they read. Of the 78% who look at labels, 63% reported being confused about whether an item is recyclable or not.¹⁴⁶

133. Greenwashing works because consumers often shop with ethics in mind. For example, a report by McKinsey found that Gen Z (people born roughly between 1996 and 2010) are more likely to spend money on companies and brands seen to be ethical.¹⁴⁷ Another Nielson’s Global Corporate Sustainability Report found that 66% of consumers would spend more on a product if it comes from a “sustainable” brand, and this percentage increases to 73% among millennials.¹⁴⁸

134. A recent study by the Recyclability Partnership revealed that 82% of consumers say, “it is dishonest to put a label on a product saying it is recyclable if it won’t really be recycled.” Consumers do not believe “recyclable” claims are valid if they are theoretical only. If a product can expect to be leaked from the system or to end up in a landfill, then consumers overwhelmingly report they would feel deceived about the “recyclable” claim. Moreover, 71% of consumers said, “they would feel disappointed, deceived, upset, angry and/or lied to if products were marked as recyclable when they could not be made into new things.”¹⁴⁹

¹⁴⁴ *What Is Greenwashing?*, available at <https://nrdc.org/stories/what-greenwashing>

¹⁴⁵ *Consumer Demand for Recycled and Recyclable Products*, available at <https://stenarecycling.com/news-insights/insights-inspiration/guides-articles/consumer-demand-recyclable-products/>.

¹⁴⁶ *Consumer Research on Recycling Behavior and Attitudes Regarding On-Pack Labeling*, available at <https://recyclingpartnership.org/consumer-research-on-recycling-behavior-and-attitudes-regarding-on-pack-labeling/>.

¹⁴⁷ *What Is Greenwashing in Marketing?*, available at <https://earth.org/what-is-greenwashing-in-marketing/#>.

¹⁴⁸ *Id.*

¹⁴⁹ *Consumer Research on Recycling Behavior and Attitudes Regarding On-Pack Labeling*, available at <https://recyclingpartnership.org/consumer-research-on-recycling-behavior-and-attitudes-regarding-on-pack-labeling/>.

1 135. Consumers are increasingly sensitive to and preferential towards plastic packaging,
 2 purporting to be sustainable and not harmful to the planet. In fact, 91% of U.S. consumers consider the
 3 amount of plastic used in a product when deciding to consume.¹⁵⁰ Sixty percent of consumers went out
 4 of their way in 2021 to purchase products with “environmentally friendly” packaging and 57% said they
 5 made significant changes in their lifestyle to lessen their environmental impact.¹⁵¹

6 136. ExxonMobil is keenly aware of this fact, as evidenced by its profit-driven efforts to tout
 7 “sustainability” goals purporting to evaluate and manage the environmental impact of their business.¹⁵²

8 137. ExxonMobil is equally aware of the repercussions for making false or misleading
 9 statements, as its experience with Hefty brand trash bags and the FTC and multiple attorneys generals
 10 demonstrate. Rather than disclosing the environmental impacts of its single-use plastic consumer products,
 11 ExxonMobil sold off its consumer product divisions throughout the 1990s to distance itself from potential
 12 liability from consumer protection lawsuits. Rather than disclosing the environmental impacts of its
 13 single-use plastic consumer products, ExxonMobil continues to manufacture the polymers used to make
 14 the single-use plastic it previously (and directly) sold to consumers.

15 138. Consumers purchased more plastics made from virgin polymers than they otherwise would
 16 have. The continued use of vast amounts of virgin plastic also confirms the reality that plastic is not being
 17 recycled, especially in a circular fashion.

18 **3. ExxonMobil Knew Single-Use Plastics Cannot be Safely Incinerated,** 19 **Whether by “Advanced” or “Chemical” Recycling**

20 139. ExxonMobil has long been aware of the intractable problems making it technically and
 21 economically infeasible to safely incinerate plastics. In 1988, Mobil distributed its “Discussion Book for
 22 Solid Waste,” containing 24 news clips and articles, including an October 11, 1988 New York Times
 23 article, which explained: incineration plants “are expensive and their presence is not generally welcomed.

24 ¹⁵⁰ *Ninety-one Percent of U.S. Consumers Consider the Amount of Plastic Used in a Product when*
 25 *Making Purchase Decisions*, available at
 26 <https://businesswire.com/news/home/20220929005296/en/Ninety-one-Percent-of-U.S.-Consumers-Consider-the-Amount-of-Plastic-Used-in-a-Product-When-Making-Purchase-Decisions>.

27 ¹⁵¹ *Consumers Want Sustainability in Packaging But Recycling Isn’t the Only Option*, available at
 28 <https://triplepundit.com/story/2022/consumers-packaging-recycling/760956>.

¹⁵² *See, e.g., ExxonMobil is committed to improving quality of life by meeting the needs of society*,
 available at <https://corporate.exxonmobil.com/sustainability-and-reports/sustainability>.

1 It's one thing for the EPA to set 20 percent incineration of garbage as a national goal, quite another for
 2 local authorities to find neighborhoods willing to accept incinerators.”¹⁵³ And in an internal 1988
 3 “Background Paper,” Mobil acknowledged that research regarding the formation of harmful dioxins
 4 following incineration of PVC was still in its infancy.”¹⁵⁴

5 140. Currently, ExxonMobil promotes advanced recycling as the panacea for the obvious
 6 inadequacy of mechanical recycling. ExxonMobil claims that “deployed together” with mechanical
 7 recycling, “advanced” recycling offers a “huge opportunity” to “strengthen circularity” and
 8 “help...address the plastic waste challenge.” In fact, ExxonMobil has known that advanced recycling for
 9 decades. In a 1994 meeting with APC staffers, Exxon Chemical Vice President Irwin Levowitz called
 10 pyrolysis a ‘fundamentally uneconomical process.’”¹⁵⁵

11 141. ExxonMobil’s trademarked version of “advanced” recycling is called “Exxtend™.” The
 12 pyrolyzed output of these inputs is not recycled plastic. Rather, it is a process that combines some
 13 recovered plastic waste with virgin oil feedstock in a chemical reactor to create something ExxonMobil
 14 describes as “fossil-based feedstock” or “valuable raw materials.” Scientists describe this as a combination
 15 of unrefined oil and hazardous waste byproducts.

16 142. The end result of the Exxtend™ “advanced” recycling process is that ExxonMobil purports
 17 to “sell certified-circular plastics corresponding to the amount of plastic waste [it] transforms[s] back into
 18 usable raw materials.” The so-called “circular plastics” certificates it supplies to purchasers of Exxtend™
 19 output to “communicate their circularity goals” is not a verification of “recycled content.” Rather
 20 ExxonMobil calls it “mass balance attribution,” or “an accounting process” that “can be used in complex
 21 value chains like ours in which one input (e.g. plastic waste) is mixed with other inputs in a way that the
 22 different inputs cannot be physically traced throughout the system.” This is why ExxonMobil offers the
 23 sly disclaimer that the certificates it offers to purchasers of Exxtend™ “advanced recycling” “raw
 24 material” “are not a claim that our certified-circular polymers contain any ‘recycled content or GHG
 25 [greenhouse gas] benefits.’”

26 ¹⁵³ Briscoe Document, Mobil Corporation, DISCUSSION BOOK FOR SOLID WASTE, 1989, at 6.

27 ¹⁵⁴ Briscoe Document, Mobil Corporation, DISCUSSION BOOK FOR SOLID WASTE, 1989, at 14.

28 ¹⁵⁵ *The Fraud of Plastic Recycling*, available at <https://climateintegrity.org/uploads/media/Fraud-of-Plastic-Recycling-2024.pdf> (internal citation omitted).

143. ExxonMobil claims it will process at least a billion pounds of plastic in its chemical advanced recycling facilities by 2026.¹⁵⁶ However, ExxonMobil's claims are just "words on paper" with little real impact.¹⁵⁷ ExxonMobil marketing identifies a single operating "advanced recycling" facility in Baytown, Texas. ExxonMobil boasts that this facility has, through March 2024, processed 45 million pounds of plastic waste into some unspecified amount of unrefined oil and hazardous waste byproduct during its operational life. California alone landfills this weight of plastic trash every 36 hours.

144. Reports also challenge ExxonMobil's claims of contributing to a circular recycling economy. Producing fuel from plastic waste requires a continuous supply of plastics, which conflicts with zero-carbon and circular economy goals.¹⁵⁸ Moreover, while ExxonMobil claims that approximately 90% of plastic waste processed at Baytown is transformed into basic molecules, it does not report any confirmed statistics, and independent estimates from industry experts suggest that the actual conversion rate is no higher than 25%.¹⁵⁹

145. Advanced recycling is ExxonMobil's and the industry's most recent false solution intended to shield them from the backlash from the single-use plastic pollution crisis. ExxonMobil has itself admitted that "advanced" recycling is environmentally unfriendly, inefficient and costly, and could never, alone or in tandem with other recycling technologies, make any marginal, let alone meaningful, impact on California and the world's worsening single-use plastic crisis. These acts have diverted resources away from alternative waste management strategies and legitimize ever increasing production that has significantly exacerbated the single-use plastic waste crisis.¹⁶⁰

¹⁵⁶ *Annual Report 2022*, available at https://d1io3yog0oux5.cloudfront.net/_0525f46847911a3ef8ef04b23fb23196/exxonmobil/db/2301/22049/annual_report/2022-Annual-Report.pdf.

¹⁵⁷ *Exxon doubles down on 'advanced recycling' claims that yield few results*, available at <https://theguardian.com/environment/2022/may/11/exxon-advanced-recycling-plastic-pollution-investigation>.

¹⁵⁸ *Recycling Lies: "Chemical Recycling" of Plastic is just Greenwashing Incineration*, available at <https://nrdc.org/sites/default/files/chemical-recycling-greenwashing-incineration-ib.pdf>.

¹⁵⁹ *The Mission Equations at ExxonMobil's Advanced Recycling Operation*, available at <https://insideclimatenews.org/news/01112023/missing-equations-exxonmobils-advanced-recycling-operation/>.

¹⁶⁰ *The Fraud of Plastic Recycling*, available at <https://climateintegrity.org/uploads/media/Fraud-of-Plastic-Recycling-2024.pdf>.

E. ExxonMobil Knew Single-Use Plastics Would be a Substantial Factor Causing the Current Single-Use Plastics Pollution Crisis

146. Since the 1980s, ExxonMobil has admitted to the public that its products are the cause of single-use plastic pollution. ExxonMobil admitted in 1987: “There are questions as to how much waste the sea can take without some ecological damage.”¹⁶¹ Exxon further admitted in 1994: “Millions of pounds of debris wind up on beaches around the world. Debris can come from the sea – trash dropped overboard from fishing vessels or ships – or it can come from the land – drainage system overflows or beachgoers. Wherever it comes from, it’s the cause of major problems.”¹⁶²

147. ExxonMobil has also long known that its false statements regarding the safe disposal of its single-use plastic, and increase in the distribution and sale of its single-use plastic, would in turn, substantially increase plastic pollution. In a July 16, 1987, New York Times op-ed ad, ExxonMobil’s admitted: “Ocean dumping is no solution, even for coastal states. There are questions as to how much waste the sea can take without some ecological damage.”¹⁶³

148. In yet another New York Times op-ed, this time dated September 8, 1994, ExxonMobil admitted: “The items picked up most often from beaches around the world come not only from careless beachgoers, but from land, too. Frequently, the trash tossed out a car window or emptied in a parking lot winds up in the ocean.”¹⁶⁴

149. Additionally, the amount of plastic produced has consistently outpaced the ability to prevent plastic pollution. Plastic containers and packaging, like ExxonMobil’s products at issue here, comprise the greatest share of the plastic waste stream. These products are known to commonly enter into the environment from the waste management systems.

150. Accordingly, ExxonMobil has long known that its single-use plastics were contributing to global plastic pollution at an ever increasing rate.

¹⁶¹ Briscoe Document, Mobil Corporation, *When it Comes to Solid Waste, America’s Policies are Wanting*, NEW YORK TIMES, July 16, 1987.

¹⁶² Briscoe Document, Mobil Corporation, *The Coast (Should Be) Clear*, NEW YORK TIMES, September 8, 1994.

¹⁶³ Briscoe Document, Mobil Corporation, *When it Comes to Solid Waste, America’s Policies are Wanting*, NEW YORK TIMES, July 16, 1987.

¹⁶⁴ Briscoe Document, Mobil Corporation, *The Coast (Should Be) Clear*, NEW YORK TIMES, September 8, 1994.

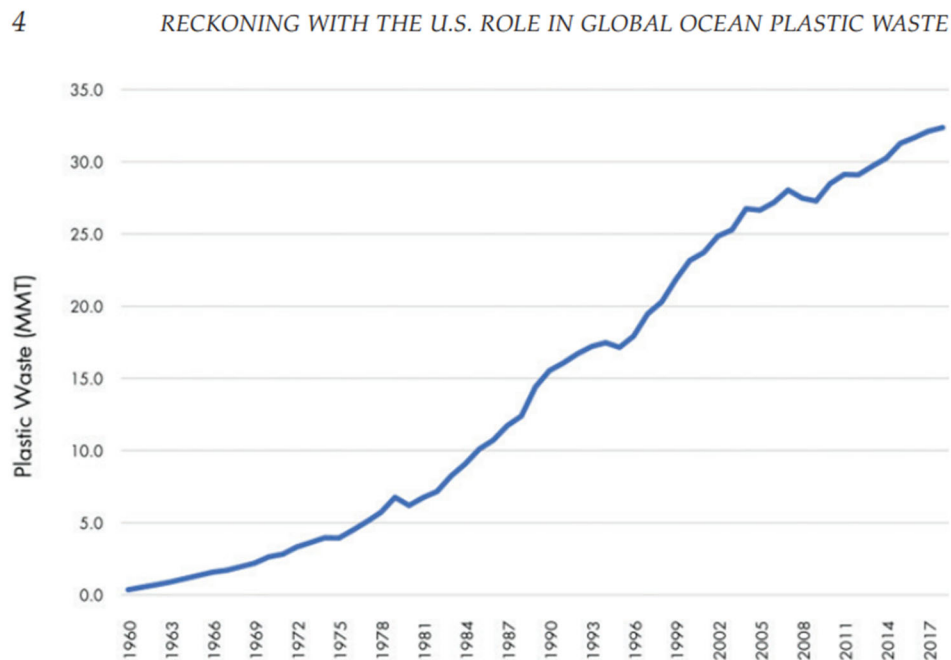


FIGURE S.1 U.S. annual plastic solid waste generation from 1960 to 2018 in million metric tons. SOURCE: U.S. EPA (2020a).

F. ExxonMobil's Conduct and Resulting Single-Use Plastics Pollution Injured the California Public

151. Single-use plastic pollution is a crisis in California. Microplastics have been identified in atmospheric, aquatic, and terrestrial environments, as well as drinking water and food products for human consumption.¹⁶⁵ Microplastics have been found in some of the most remote parts of California, including at depths as great as 3,281 feet in the Monterey Bay National Marine Sanctuary¹⁶⁶ and in snowpacks across the Sierra Nevada mountains.¹⁶⁷ A 2015 study of fish and shellfish for sale in markets found approximately a quarter of individual fish sampled in California contained human-made items, such as plastics, in their digestive tracts.¹⁶⁸ New research has revealed that there is a greater abundance of

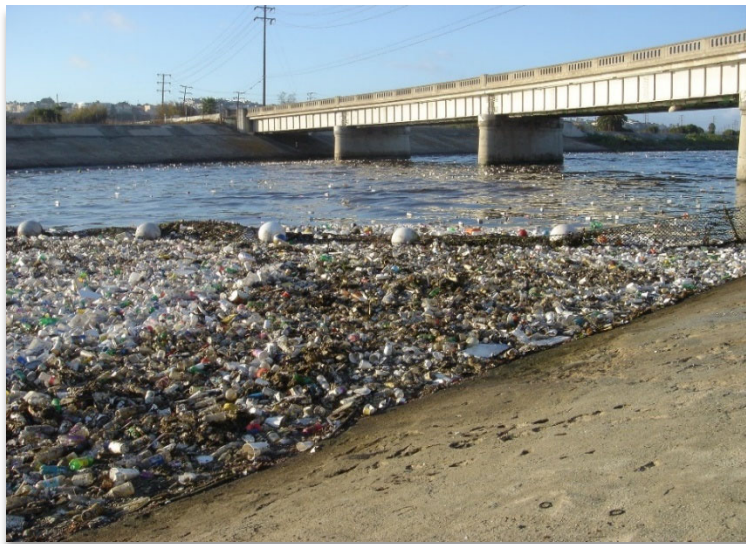
¹⁶⁵ *Estimation of the Mass of Microplastics Ingested - A Pivotal First Step Towards Human Health Risk Assessment*, available at <https://sciencedirect.com/science/article/abs/pii/S0304389420319944>.

¹⁶⁶ *The Vertical Distribution and Biological Transport of Marine Microplastics across the Epipelagic and Mesopelagic Water Column*, available at <https://nature.com/articles/s41598-019-44117-2>.

¹⁶⁷ *Scientists found microplastics in Sierra snowpacks. Should we worry about Bay Area drinking water?* Available at <https://www.sfchronicle.com/california/article/sierra-snow-microplastics-drinking-water-17840942.php>.

¹⁶⁸ *Anthropogenic debris in seafood: Plastic debris and fibers from textiles in fish and bivalves sold for human consumption*, available at <https://www.nature.com/articles/srep14340>.

microplastics in Monterey Bay (16 parts per cubic meter) than there is in the Great Pacific Garbage Patch (12 parts per cubic meter).¹⁶⁹ Similar research showed that in 2019, San Francisco Bay had among the worst levels of microplastic pollution in the world.¹⁷⁰ Plastic is also abundant in California's freshwater ecosystems, including Lake Tahoe. A 2020 study found that nearly a quarter of fish in a creek that flows into San Diego Bay contained microplastics.¹⁷¹ The photo below shows plastic pollution in the Los Angeles River in Long Beach, California.¹⁷²



152. Exposure to this ubiquitous plastic pollution harms human health in California. Microplastics may enter the human digestive, respiratory and circulatory systems, acting as both physical and chemical stressors to the human system.¹⁷³

153. Microplastics have been referred to as a “cocktail of contaminants” due to the additives, heavy metals, pharmaceuticals, pesticides and various other persistent organic pollutants they frequently

¹⁶⁹ *Id.*

¹⁷⁰ Sutton, R.; Lin, D.; Sedlak, M.; Box, C.; Gilbreath, A.; Holleman, R.; Miller, L.; Wong, A.; Munno, K.; Zhu, X.; et al. 2019. *Understanding Microplastic Levels, Pathways, and Transport in the San Francisco Bay Region*. SFEI Contribution No. 950. San Francisco Estuary Institute: Richmond, CA. Available at <https://www.sfei.org/documents/understanding-microplastics>.

¹⁷¹ *Natural History Matters: Plastics in Estuarine Fish and Sediments at the Mouth of an Urban Watershed*, available at <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0229777>.

¹⁷² *Mouth of Los Angeles River, Long Beach, CA*, available at <https://flickr.com/photos/plasticpollution/4349811821/>.

¹⁷³ *Estimation of the Mass of Microplastics Ingested - A Pivotal First Step Towards Human Health Risk Assessment*, available at <https://sciencedirect.com/science/article/abs/pii/S0304389420319944>.

1 contain.¹⁷⁴ Research suggests exposure to microplastics is tied to reproductive harm, among other health
 2 problems.¹⁷⁵ One study found that people inhale or ingest on average 74,000 to 121,000 microplastic
 3 particles per year through breathing, eating and drinking.¹⁷⁶ The chemicals associated with plastics have
 4 been linked to human illnesses and diseases including obesity, diabetes, and cancer, as well as harm to the
 5 endocrine, developmental, cardiovascular, and reproductive systems.¹⁷⁷ Numerous in vitro studies have
 6 identified human health risks when exposed to common plastic additives, including phthalates,
 7 organochlorines, polychlorinated biphenyls (“PCBs”), polybrominated diphenyl ethers (“PBDEs”), and
 8 toxic metals.¹⁷⁸

9 154. The sum of the research reveals that there are relatively few components of marine
 10 ecosystems that are unaffected by plastic pollution. Because plastic pollution impacts waterways, coasts,
 11 and oceans everywhere, the public’s ability to use and enjoy these resources is negatively affected.
 12 California has been forced to expend significant resources to address the issue of plastic pollution. As just
 13 one example, California has begun a testing program for microplastics in drinking water sources.¹⁷⁹

14 155. Ultimately, the public bears significant costs associated with the impacts of marine plastic
 15 pollution. Annual global losses from all industries afflicted by marine plastic pollution reach an estimated
 16 \$13 billion.¹⁸⁰ More alarming is the “overall natural capital cost of plastic use in the consumer goods
 17 sector each year is US\$75 billion—financial impacts resulting from issues such as pollution of the marine
 18 environment or air pollution caused by incinerating plastic.”¹⁸¹ As of 2015, California communities were
 19

20 ¹⁷⁴ *Id.*

21 ¹⁷⁵ *Human Health Consequences of DDT Use*, available at
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2737010/>.

22 ¹⁷⁶ *The Plastics We Breathe*, available at <https://washingtonpost.com/climate-environment/interactive/2024/microplastics-air-human-body-organs-spread/>.

23 ¹⁷⁷ *Estimation of the Mass of Microplastics Ingested - A Pivotal First Step Towards Human Health Risk Assessment*, available at <https://sciencedirect.com/science/article/abs/pii/S0304389420319944>.

24 ¹⁷⁸ *Id.*

25 ¹⁷⁹ *California Approves Microplastics Testing of Drinking Water Sources*, available at
<https://calmatters.org/environment/2022/09/california-microplastics-testing-drinking-water-sources/>.

26 ¹⁸⁰ *Plastic Waste Causes Financial Damage of US\$13 Billion to Marine Ecosystems Each Year as Concern Grows over Microplastics*, available at <https://unep.org/news-and-stories/press-release/plastic-waste-causes-financial-damage-us13-billion-marine-ecosystems>.

27 ¹⁸¹ *Id.*

1 estimated to spend more than \$428 million annually to clean up and control plastic pollution.¹⁸²

2 156. Californians understand the harmful effects of ExxonMobil's decades-long misconduct
3 and seek to hold ExxonMobil accountable. For example, in an August 2024 survey of 1,200 likely
4 American voters conducted by the Center for Climate Integrity,¹⁸³ the organization found:

- 5 ■ Asked to gauge their level of worry about plastic waste in
6 waterways, 63% said they were "very concerned", including 73% of
7 Democrats, 60% of independents and 53% of Republicans. A
8 majority also indicated some level of worry about plastic litter in
9 their communities, plastic waste in landfills and microplastics in
10 their bodies.
- 11 ■ Participants were then informed that some officials, citing evidence
12 of deception, have called for litigation against the plastics and fossil
13 fuel industries for their role in plastic pollution. Majorities from
14 every political affiliation said they would back the efforts, including
15 not only 54% of Republicans but also 88% of Democrats and 66%
16 of independents.
- 17 ■ Most respondents, 62%, strongly agreed that putting the chasing
18 arrows symbol on a non-recyclable plastic product is deceptive,
19 including 57% of Republicans. Half of voters remained in strong
20 agreement that the symbol would be deceptive if placed on plastic
21 products that are technically recyclable but not usually recycled in
22 practice.
- 23 ■ When the poll informed respondents that some advocates compare
24 the plastics and fossil fuel industries' promotion of plastics
25 recycling to the opioid and tobacco industries' efforts to downplay
26 the harmful effects of their products, 68% of voters said they
27 strongly believed that the plastics sector should be held responsible
28 for the plastic waste crisis. Some 59% felt the same about the fossil
fuel industry.

20 **G. ExxonMobil's Conduct and Resulting Single-Use Plastics Pollution Injured Named**
21 **Plaintiffs**

22 157. As explained below, Plaintiffs have been harmed by ExxonMobil's knowing conduct.

23 **1. Sierra Club**

24 158. At all relevant times, Sierra Club has diverted its resources, and continues to divert its
25 resources, to combat the injuries caused by ExxonMobil's conduct with respect to plastic pollution. For

26 ¹⁸² *Plastic Pollution*, available at <https://opc.ca.gov/marine-pollution/plastics/>.

27 ¹⁸³ *Most US Voters Say Plastics Industry Should be held Responsible for Recycling Claims – Report*,
28 available at <https://www.theguardian.com/us-news/article/2024/sep/09/us-voters-distrust-plastics-manufacturers-claims>.

example, Sierra Club has engaged in substantial legislative efforts over the course of many years seeking to address plastic pollution. For example, dating back to 2020, Sierra Club has undertaken legislative efforts with respect to the following proposed legislation in California: AB 2287 (Plastic Product Compostability), SB 343 (Truth in Labeling for Recyclable Material), AB 881 (Recycling Export Reform), AB 962 (Reusable Beverage Containers), AB 1200 (PFAS Ban in Food Packaging), AB 1201 (Plastic Products Labeling: Compostability and Biodegradability), AB 1276 (Foodware Accessories Upon Request), SB 1046 (Non-Compostable Produce Bag Ban), AB 496 (Cosmetic Safety), SB 353 (Beverage Containers Recycling).

159. Sierra Club also diverts its resources towards addressing plastic pollution at the level of local government. For example, in 2023, Sierra Club supported a proposed “plastics ban” in Irvine, California, which the city of Irvine ultimately declined to enact in the face of opposition from a powerful coalition of industry groups. The proposed law would have, among other things, banned the sale of plastic water bottles of one liter or less, with hotels prohibited from providing any plastic water bottles in guest rooms.

160. Sierra Club also diverts its resources to educate the public regarding plastic pollution. For example, in March 2024, Sierra Club’s Angeles Chapter (Los Angeles) co-hosted a “Plastic Waste Reduction Town Hall” meeting in Irvine, California, in association with Irvine Councilmember Kathleen Treseder, to hold a public discussion concerning the effects of plastic pollution and potential future plastics-related legislation. Sierra Club has published articles in its magazine, SIERRA MAGAZINE, to promote public awareness of issues pertaining to plastic pollution. Sierra Club staff has devoted hours of its time per week to plastics coverage in Sierra Magazine from 2021 to 2024. The article, *These Are the New Titans of Plastic*,¹⁸⁴ published September 15, 2022, occupied hundreds of hours of staff time alone.

161. Sierra Club estimates that it spent in excess of \$1,800,000 in connection with its efforts to address plastic pollution from 2020 through 2024.

162. Additionally, Sierra Club operates in counties that landfill single-use plastics. Sierra Club further operates in counties that do not accept most categories of single-use plastic for mechanical

¹⁸⁴ *These Are the New Titans of Plastic*, available at <https://sierraclub.org/sierra/2022-3-fall/feature/these-are-new-titans-plastic-shell-pennsylvania-fracking>.

1 recycling, particularly plastic nos. 3 to 7. Sierra Club further operates in counties that currently engage in
2 incineration.

3 163. Sierra Club has also taken measures to decrease plastic use within the organization. For
4 instance, Sierra Club California passed a resolution setting forth best practices for in-person events and
5 meetings, including a set of specific recommended actions regarding plastics. Among other things, the
6 resolution advises members of the organization to notify all attendees to bring their own water bottles and
7 mugs; serve food using reusable plates, bowls, and cutlery; use cloth napkins; minimize or eliminate the
8 use of food ware accessories, such as straws, stirrers, lids, and lid plugs; eliminate or minimize single-
9 serving condiments; and use cloth tablecloths instead of single-use table coverings. Sierra Club further
10 purchased non-plastic dishes and silverware for its headquarters' kitchen, as well as a Sodastream
11 sparkling water maker for staff to make their own carbonated water.

12 2. Surfrider

13 164. At all relevant times, Surfrider has diverted its resources, and continues to divert its
14 resources, to combat the injuries caused by ExxonMobil's conduct concerning plastic pollution.

15 165. Since 1984, Surfrider's mission is the protection and enjoyment of the world's ocean,
16 waves and beaches for all people through a powerful activist network. Since 2006, Surfrider's coastal
17 protection work has included a focus on combating plastic pollution.¹⁸⁵

18 166. Surfrider diverts considerable resources towards national, state, and local policy advocacy
19 to reduce plastic pollution, which includes, for example: supporting plastic bag ordinances aimed at
20 eliminating single-use plastic bags and promoting reusables; supporting food ware ordinances aimed at
21 eliminating plastic straws, utensils, and expanded polystyrene (foam) packaging; and other legislative
22 efforts to reduce or eliminate dependence on single-use plastics. Surfrider engages plastic pollution staff
23 members, policy staff, legal staff, marketing, and communications staff, as well as accounting staff and
24 technical support staff in connection with its policy advocacy.

25 167. Surfrider diverts considerable resources toward its beach cleanup efforts which, in large
26 part, target single-use plastics. As part of its "Rise Above Plastics" initiative, Surfrider hosts beach
27 cleanups throughout California with participation from Surfrider members and staff in various locations

28 ¹⁸⁵ *Our History*, available at <https://surfrider.org/our-history>.

including Los Angeles City and County, San Francisco City and County, Ventura, Long Beach, San Diego County, Orange County, San Luis Obispo, San Mateo, Sonoma, and Marin. Surfrider chapters and clubs lead hundreds of cleanups every year in California and over 1,000 nationwide. They remove tens of thousands of pounds of trash and collect data to inform the public of their efforts. The collection of data can help to make the legislative changes needed to hold plastic producers and polluters accountable.¹⁸⁶ The San Francisco Surfrider Chapter, like many others, hosts a beach cleanup once a month with volunteers who weigh and catalog the materials collected.

168. During Surfrider's beach cleanups, Surfrider typically collects single-use plastics, including those that (based on information and belief) are made from polymers and or plastics manufactured by ExxonMobil. Those include single-use plastics manufactured by Berry Global and Amcor.

169. Surfrider's national expenses for beach cleanups from January 1, 2024 through April 8, 2024 were approximately \$262,000. At the regional level, Surfrider's San Diego chapter conducted five beach cleanups between January and March 2024. Surfrider spent approximately \$14,825 in connection with these cleanups, including money for wages of Surfrider staff, transportation to and from the cleanups, and supplies.

170. Surfrider also diverts its resources to promote plastic reduction in restaurants through its "Ocean Friendly Restaurants Program." This program is aimed at recognizing restaurants that have adopted "ocean friendly" practices such as not providing utensils in take-out orders unless requested, not utilizing plastic takeout bags, and not utilizing plastic or expanded polystyrene (foam) takeout containers, among other criteria. Staff and volunteers also work to encourage restaurants to adopt these practices and become an "Ocean Friendly Restaurant." Surfrider employs one full-time staff member as its Ocean Friendly Restaurants program manager. The Ocean Friendly Programs has expanded into Ocean Friendly Hotels as well, and efforts are underway to recognize hotels that have adopted plastic reduction measures and other environmentally friendly practices, and to encourage hotels to engage in these efforts.

171. From January 1, 2024 through April 8, 2024, Surfrider estimates that it has incurred approximately \$1.9 million in expenses in connection with its efforts to combat plastic pollution, including

¹⁸⁶ *Plastic Pollution*, available at <https://www.surfrider.org/initiatives/plastic-pollution>.

1 compensation, consultation, and travel costs related to Surfrider's extensive plastic policy work.

2 172. Surfrider also diverts its resources to protect its employees from the negative effects of
3 plastic pollution. For example, Surfrider's Headquarters in San Clemente has undertaken efforts to reduce
4 the use of single-use plastics at the office, including purchasing and installing of a water filtration system
5 by Flo Water brand. The Flo Water system filters out impurities, including microplastics and nanoplastics,
6 and eliminates the need for single-use plastic water bottles.

7 173. Surfrider has also taken measures to reduce plastic waste. For example, Surfrider purchased
8 non-plastic dishes, silverware for its headquarters' kitchen, and a Sodastream sparkling water maker for
9 staff to make their own carbonated water.

10 174. Surfrider operates in counties that landfill single-use plastics. Surfrider further operates in
11 counties that currently do not accept most categories of single-use plastic for mechanical recycling,
12 particularly plastic nos. 3 to 7. Surfrider further operates in counties that currently engage in incineration.

13 175. Surfrider members regularly recreate in and on the ocean, waves, and beaches, whether
14 surfing, swimming, stand up paddling, beach walking, fishing, etc., and are harmed by ExxonMobil's
15 single-use plastic polluting these areas. Surfrider members are harmed by seeing these natural areas
16 polluted by single-use plastic trash. Seeing such trash detracts from their enjoyment of these resources.
17 Surfrider members regularly clean up such pollution that they encounter, either at regularly planned beach
18 cleanups or in their individual efforts.

19 **3. Heal the Bay**

20 176. At all relevant times Heal the Bay has diverted its resources, and continues to divert its
21 resources, to combat the injuries caused by ExxonMobil's conduct with respect to plastic pollution.

22 177. Since 1985, Heal the Bay's mission has focused on combatting plastic pollution,
23 particularly marine pollution. Heal the Bay is dedicated to making the coastal waters and watersheds in
24 greater Los Angeles safe, healthy, and clean by using science, education, community action, and advocacy.

25 178. As part of that mission, Heal the Bay organizes and leads hundreds of beach cleanups
26 annually through a variety of programs. The organization coordinates monthly "Nothin' but Sand Beach
27 Cleanups," where members of the public are invited to conduct cleanups of local beaches. Heal the Bay
28 also has a program called "Suits on the Sand," in which private entities sponsor beach cleanups featuring

1 team-building activities and competitions to see who can collect the most trash. In addition, Heal the Bay
2 organizes “Adopt a Beach” cleanups, whereby volunteers commit to three trash cleanups in a year at a
3 location in greater Los Angeles. Heal the Bay also hosts cleanups for Los Angeles County each year on
4 California Coastal Cleanup Day. In fiscal year 2023 (October 1, 2022 – September 30, 2023), Heal the
5 Bay organized over 600 cleanups, with the participation of 28,000 volunteers.

6 179. Heal the Bay provides beach cleanup volunteers with a “data card” to be used to collect
7 information on the types of trash they pick up, and the organization has maintained data in connection
8 with its beach cleanup activities since 2001. Heal the Bay has data pertaining to beaches across Los
9 Angeles County (ranging from Malibu to Long Beach), which accounts for the majority of the data, as
10 well as data from some inland creek sites. From 2001 to 2024, Heal the Bay has recorded the removal of
11 1,126,453 plastic pieces, 69,057 plastic bottles, 122,527 plastic bags, 993,603 foam pieces, 44,244 plastic
12 cups, and 1,226,524 cigarette butts. These figures likely underestimate the true amounts of plastic debris
13 removed as a result of Heal the Bay’s cleanup activities because not all volunteers record data.

14 180. Heal the Bay further provides the community with a “Storm Response Team” that acts as
15 the last line of defense, removing garbage, the majority of which is plastics, that is washed out of the storm
16 drain system and local waterways before it reaches the ocean. The “Storm Response Team” is activated
17 after storms, with a particular focus on the “first-flush”, which is the first big storm of the wet-season
18 when the highest amounts of trash are flushed onto the beaches and into the ocean.

19 181. Heal the Bay spends an estimated \$133,000 annually on staffing for cleanups and related
20 data management, and \$700,000 annually for its scientific work reducing plastic pollution at the State’s
21 beaches.

22 182. Heal the Bay also offers education programs regarding pollution prevention to visitors at
23 its Aquarium. Heal the Bay spends \$75,000 annually in connection with its educational programs
24 regarding plastic pollution.

25 183. Additionally, in response to plastic pollution, Heal the Bay has diverted its resources to
26 promote legislation to address plastic pollution, including AB 2236 and SB 1053 which seek to repair the
27 California bag ban and remove plastic bags from checkout counters all together. Heal the Bay was integral
28 in the passage of plastic bag bans in the City of Los Angeles and in California, as well as in the

1 development, passage, and implementation of Los Angeles County’s recent comprehensive foodware
2 ordinance, Los Angeles City’s accessories upon request ordinance, expanded polystyrene ban, and many
3 more local policies to reduce plastic pollution. Heal the Bay is currently supporting California AB 2214
4 (Bauer-Kahan), which seeks to mandate measures to implement the “Statewide Microplastics Strategy,”
5 an existing protocol developed by the California Ocean Protection Council. Heal the Bay spends an
6 estimated \$50,000 annually for staffing costs related to its plastic reduction policy work.

7 184. Heal the Bay also diverts its resources to reduce plastic use by its employees and to protect
8 its employees from the negative effects of plastic pollution. For example, Heal the Bay has installed filters
9 on the tap water in its office kitchen, including a granular activated carbon cartridge filter.

10 185. Heal the Bay diverts its resources to minimize or eliminate the use of single-use plastics in
11 connection with its operations. For example, Heal the Bay installed a water filling station at its aquarium
12 for visitors and staff. Rather than use plastic tableware, Heal the Bay uses ceramic, reusable dishes and
13 utensils in its office kitchen, and purchased a set of metal camping plates, bowls, and cups for off-site
14 events. Heal the Bay’s recent “Reusable Is Beautiful” gala was completely free of single-use plastics—
15 the nametags, guest bracelets, cups, and more were reusable. Heal the Bay hosts birthday parties at its
16 Aquarium, at which Heal the Bay does not allow plastic water bottles, single-use plastic straws, glitter,
17 confetti, balloons, styrofoam products, or piñatas. Heal the Bay provides guests with reusable tableware,
18 including cloth napkins, and washable plates and utensils.

19 186. Heal the Bay also leases the property located at 1600 Ocean Front Walk, Santa Monica,
20 CA 90401 to operate Heal the Bay Aquarium.

21 187. As a result of ExxonMobil’s conduct, Heal the Bay has suffered: (1) injuries to human
22 health by additives and microplastics; (2) injuries to marine health by additives and microplastics; (3)
23 offense to senses; and (4) interference with comfortable enjoyment.

24 188. Heal the Bay’s property and the immediately surrounding area are routinely littered with
25 trash, including single-use plastics. Heal the Bay has consequently been forced to use its resources to
26 regularly clear its property of this trash.

27 189. Heal the Bay pumps ocean water into its aquarium. All water goes through a 1-micron filter
28 to prevent physical pollutants, including plastics, from entering the aquarium. Heal the Bay staff clean the

1 filter on a bi-weekly basis. Heal the Bay replaces the filter and other materials, which increases Heal the
2 Bay's annual costs. Trash and plastic also regularly fall from the pier into the aquarium's maintenance
3 space and occasionally directly into animal holding tanks. Additionally, Heal the Bay spends
4 approximately three hours per day and \$50 thousand dollars annually cleaning the filter and removing
5 trash, including single-use plastics, from the holding tanks.

6 190. Heal the Bay staff also spend time each day (typically twice a day) to remove trash,
7 including plastic pollution, that blows onto its exterior property or is otherwise deposited there. This trash
8 often fills a 13-gallon trash bag in a single day. Heal the Bay spends thousands of dollars on these daily
9 trash removal efforts.

10 191. Upon information and belief, Heal the Bay operates in a county that landfills single-use
11 plastics. Heal the Bay further operates in a county that currently does not accept most categories of single-
12 use plastic for mechanical recycling, particularly plastic nos. 3 to 7. Heal the Bay further operates in a
13 county that currently engages in incineration.

14 **4. Baykeeper**

15 192. At all relevant times, Baykeeper has diverted its resources, and continues to divert its
16 resources, to combat the injuries caused by ExxonMobil's conduct with respect to plastic pollution.

17 193. Baykeeper acts on behalf of its approximately 3,500 members who live and/or recreate in
18 and around the San Francisco Bay Area. Baykeeper's mission is to defend San Francisco Bay from the
19 biggest threats, and hold polluters and government agencies accountable to create healthier communities
20 and help wildlife thrive. Baykeeper takes members of the public on the Bay to help inspire appreciation
21 for a healthy watershed. In this context, the existence of plastic pollution in the water and on the shoreline
22 interferes Baykeeper's objectives and offends its and the public's visual and physical enjoyment. Plastic
23 pollution in the Bay, especially plastic bags, has also directly harmed Baykeeper when it gets lodged,
24 trapped, or tangled in Baykeeper's boat's propellers.

25 194. As part of that mission, Baykeeper diverts its resources to coordinate shoreline cleanups.
26 Baykeeper hosts on average eight in-person cleanups a year. In the spring and summer of 2024, Baykeeper
27 hosted five beach cleanups with members. Each one of these cleanups requires approximately \$3,000 in
28 staff time and resources, or a total of about \$24,000 per year for beach cleanups. In addition, Baykeeper

invests in supplies for the cleanups as needed, averaging about \$200 a year. Baykeeper has partnered with Sierra Club in connection with shoreline cleanup efforts.¹⁸⁷

195. Baykeeper also hosts a distributed cleanups program whereby the organization encourages volunteers to conduct cleanups around their own neighborhoods and shorelines. This program requires about \$650 in staff time per year.

196. Baykeeper also diverts its resources to engage in advocacy work related to plastic pollution. Since 2019, Baykeeper has diverted its resources to support or oppose a number of plastics or trash-related bills.

197. For example, in 2019, Baykeeper supported the California Circular Economy and Plastic Pollution Reduction Act (AB 1080 and SB 54), which would have addressed 75% of California's single-use packaging and products sold or distributed in California by 2030; supported legislation on reusable containers (AB 619); a budget rider to facilitate San Mateo stormwater funding for green infrastructure, which aimed to reduce the harms from microplastic and other plastic trash pollution in stormwater; the California Environmental, Public Health, and Workers Defense Act of 2019 (SB 1), which aimed to preserve federal environmental protections such as the Clean Water Act under threat from roll-backs under an adverse administration; the Stormwater Quality Improvement Act (SB 205) with the goal of requiring a business in an industry regulated by the National Pollutant Discharge Elimination System permit program to demonstrate compliance with the Industrial General Permit, which help reduce plastic pollution in waterways; and the Act Relating to Solid Waste (SB 33), intended to address the collapse of foreign recycling markets by reducing solid waste generation.

198. In 2021, Baykeeper supported the California Clean Water Act (AB 377), which would have helped keep plastic pollution out of California waters.

199. In 2022, Baykeeper supported reducing microplastics pollution from cigarette filters (AB 1690); supported recycling legislation addressing plastic packaging and carryout bags (AB 2026); supported additional stormwater regulation (AB 2106); directing funds from the State Water Pollution Cleanup and Abatement Account to new accounts (AB 2113), which would have helped address plastic

¹⁸⁷ *Monthly Beach Cleanups Coming to a Shoreline Near You*, available at <https://sierraclub.org/sfbay/blog/2022/11/monthly-beach-cleanups-coming-shoreline-near-you>.

1 pollution in California waterways; legislation to reduce microplastics from washing machines (AB 802);
2 and opposed a solid waste reporting, packaging, and food service ware bill that would have exacerbated
3 plastic and trash pollution (SB 54).

4 200. In 2023, Baykeeper supported a microfiber filtration bill that required, on and after January
5 1, 2029, all new washing machines sold for residential, commercial, and state use in California contain a
6 microfiber filtration system (AB 1628); a bill directed at plastic and chemical contaminated stormwater
7 runoff to protect salmon and steelhead trout bearing surface waters (AB 756); supported a product safety
8 bill focused on plastic packaging (AB 1290); and a solid waste bill directed at single-use foodware
9 accessories and single-use food packaging (SB 552).

10 201. In 2024, Baykeeper supported a bill to close the loophole in California's bag ban that has
11 allowed the use of thicker plastic bags (AB 2236 and SB 1053); a bill to ban the sale of toxic plastic
12 packaging containing PFAS or made of PVC /PVDC (AB 2761); and a bill to require chain restaurants to
13 provide reusable cups for customers who dine in (AB 1167).

14 202. In 2014, California reissued the state-wide Industrial General Stormwater Permit, which
15 added specific requirements for industrial facilities handling plastic materials. In 2015, Baykeeper
16 investigated approximately 60 industrial facilities that use pre-production plastic in their manufacturing
17 and industrial activities for potential enforcement actions. Each initial investigation took approximately 1
18 hour, for a total of approximately 60 hours. In addition, Baykeeper's attorneys and scientists conducted
19 site visits at 10 facilities requiring approximately 9 hours of staff time. Of those 10 facilities, Baykeeper
20 pursued an enforcement action against one of them, Tri-Star. That facility came into compliance after
21 Baykeeper sent a 60-day Notice of Intent to Sue.

22 203. Baykeeper has advocated on the Bay Area's Municipal Stormwater Permit, which includes
23 limitations and prohibitions on discharge of trash into waterways in order to strengthen regulatory
24 requirements to better prevent trash from entering San Francisco Bay and other California waters.

25 204. Baykeeper worked on a fireworks permit to reduce trash and plastic pollution in the San
26 Francisco Bay.

27 205. Baykeeper has spent many hours studying the impact of microplastics on the Bay,
28 including partnering with other researchers and utilizing the Baykeeper boat to test the Bay for

1 microplastics. In 2018, researchers with National Geographic used a boat owned by Baykeeper to trawl
 2 the San Francisco Bay for microplastics. In 2019, scientists from San Francisco Estuary Institute worked
 3 with Baykeeper scientists to study microplastics in the Bay.

4 206. Beyond these program areas, Baykeeper has taken many steps to reduce its own plastic
 5 use. For instance, Baykeeper provides staff and members with metal cups and cloth bags to reduce the use
 6 of equivalent plastic items. Additionally, Baykeeper takes measures to avoid the use of plastic, instead
 7 choosing sustainable materials and items that will reduce plastic use, including reusable water bottles and
 8 cups. Further, Baykeeper uses non-plastic alternatives whenever possible at its events, including reusable
 9 name tags, cups, utensils, and dish ware. Baykeeper also carefully sources and pays higher prices for our
 10 merchandise, including t-shirts, stickers, and puzzles, so that it contains as little plastic as possible.
 11 Baykeeper provides a water filter in its office to its employees to filter out microplastics that might be
 12 present in drinking water. Baykeeper also invested in equipment on the boat (including trash bins and pool
 13 skimmers) after members and staff encountered rafts of trash in the Bay which impeded or deterred outings
 14 on the water.

15 207. Baykeeper operates in counties that landfill single-use plastics. Baykeeper further operates
 16 in counties that currently do not accept most categories of single-use plastic for mechanical recycling,
 17 particularly plastic nos. 3 to 7. Baykeeper further operates in counties that currently engage in incineration.

18 **V. CAUSES OF ACTION**

19 **FIRST CAUSE OF ACTION** 20 **Private and Public Nuisance** 21 **Violations of Civil Code §§3479-3480**

22 208. Plaintiffs incorporate herein by reference all of the allegations in paragraphs 1 to 207 of
 23 this First Amended Complaint.¹⁸⁸

24 209. A nuisance is “[a]nything which is injurious to health . . . or is indecent or offensive to the
 25 senses . . . so as to interfere with the comfortable enjoyment of life or property.” Cal. Civ. Code § 3479.
 26 “No lapse of time can legalize a public nuisance, amounting to an actual obstruction of public right.” Cal.

27 ¹⁸⁸ The additional allegations in the First Amended Complaint apply only to the Second Cause of Action
 28 for Violation of California Unfair Competition Law, Cal. Bus. & Prof. Code § 17200, *et seq.* Except for
 allegations regarding jurisdiction and venue, *supra* at ¶¶ 22-23, the First Cause of Action for Nuisance is
 unchanged from the original Complaint.

1 Civ. Code § 3490.

2 210. “A *public* nuisance is one which affects at the same time an entire community or
3 neighborhood, or any considerable number of persons, although the extent of the annoyance or damage
4 inflicted upon individuals may be unequal.” Cal. Civ. Code § 3480. (emphasis added). “A private person
5 may maintain an action for a public nuisance, if it is specially injurious to himself.” Cal. Civ. Code §
6 3493. “A public nuisance cause of action is established by proof that a defendant knowingly created or
7 assisted in the creation of a substantial and unreasonable interference with a public right.” *People v.*
8 *ConAgra Grocery Prod. Co.*, 17 Cal.App.5th 51, 79 (2017).

9 211. ExxonMobil by its affirmative acts and omissions, has created, contributed to, and/or
10 assisted in creating conditions that constitute a nuisance by causing single-use plastic pollution in
11 California waterways and coasts, soil and air, and its associated harms described above.

12 212. The conditions created by ExxonMobil substantially and negatively affect the interests of
13 the public at large. Plastic pollution impacts, as described above, are: (1) injurious to human health, (2)
14 injurious to marine health, (3) offensive to the visual, physical, olfactory, and other senses, and (4)
15 interferes with the use and enjoyment of California’s waterways and coasts, soil and air.

16 213. Single-use plastic pollution impacts a substantial number of residents and citizens living in
17 Plaintiffs’ communities, and they are reasonably annoyed and disturbed by plastic pollution.

18 214. The harm from plastic pollution outweighs the benefit of ExxonMobil’s products because:

- 19 a. The interference with the public’s right to use and enjoy the environment, its beaches,
20 ocean and marine life is expected to become so regular as to be permanent;
- 21 b. The harm is the destruction and loss of use and enjoyment of California’s environment,
22 its beaches, ocean and marine life;
- 23 c. The burden on the public to mitigate and prevent the interference is significant and
24 severe;
- 25 d. The social benefit of single-use plastic packaging associated with ExxonMobil’s
26 products is outweighed by the availability of alternative products; and

27 215. It was practical for ExxonMobil, in light of its knowledge, to develop alternatives and/or
28 prevent single-use plastic pollution

1 216. In addition to the above, Plaintiff Heal the Bay has suffered a private nuisance. Heal the
2 Bay leases oceanfront property in Santa Monica, California to operate the Heal the Bay Aquarium.

3 217. ExxonMobil, by acting as described herein, created plastic pollution that was harmful to
4 health; was indecent or offensive to the senses; and was an obstruction to the free use Plaintiff's property,
5 such that it interfered with the comfortable enjoyment of life or property and obstructed the use and created
6 a hazard on Plaintiff's property.

7 218. ExxonMobil conduct was intentional and unreasonable, and at minimum reckless, as the
8 pollution that ExxonMobil has created and permitted to exist is hazardous.

9 219. ExxonMobil's conduct and the resulting plastic pollution has substantially interfered with
10 Plaintiff Heal the Bay's use and enjoyment of its land.

11 220. An ordinary person would reasonably be annoyed or disturbed by ExxonMobil's conduct.

12 221. Plaintiff Heal the Bay did not consent to ExxonMobil's conduct and Heal the Bay was
13 harmed, as alleged herein.

14 222. Moreover, as explained in detail in this complaint, ExxonMobil's conduct was a substantial
15 factor in causing Heal the Bay's harm, and the seriousness of the harm outweighs the public benefit.

16 223. Each of the Plaintiffs have also suffered special injuries (which are different in kind) by
17 diverting organizational resources to prevent and mitigate the harms from single-use plastic pollution and
18 to clean up plastic pollution in waterways on its own private property and public property in California.

19 224. As a direct and proximate result of ExxonMobil's conduct, Plaintiffs and their members
20 have been harmed. ExxonMobil knew or should have known that its conduct would create a continuing
21 problem with long-lasting negative effects on the rights of the public.

22 225. ExxonMobil's actions are a direct and legal cause of the nuisance described above.

23 226. ExxonMobil's acts and omissions are indivisible causes of Plaintiffs' injuries and damages
24 as alleged herein.

25 227. Plaintiffs are entitled to recover damages and other appropriate relief for the foregoing
26 public nuisance.

27 228. Wherefore, Plaintiffs pray for the relief as set forth below.
28

SECOND CAUSE OF ACTION
Violation of California Unfair Competition Law
Business & Professions Code §17200, et seq.

229. Plaintiffs incorporate by reference all of the allegations in this complaint.

230. Bus. & Prof. Code § 17200, *et seq.* prohibits “any unlawful, unfair or fraudulent business act or practice.” Because the UCL “is written in the disjunctive, it establishes three varieties of unfair competition — acts or practices which are unlawful, or unfair, or fraudulent.” *Capito v. San Jose Healthcare Sys., LP*, 17 Cal.5th 273, 284 (2024). “In other words, a practice is prohibited as ‘unfair’ or ‘deceptive’ even if not ‘unlawful’ and vice versa.” *Id.*

231. Plaintiffs assert violations under the unlawful and unfair prongs. Plaintiffs do not assert violations under the fraudulent prong.

232. “Diversion of salaried staff time and other office resources can constitute the loss of ‘money or property’ within the meaning of [Cal. Bus. & Prof. Code §] 17204.” *Cal. Med. Assn. v. Aetna Health of Cal. Inc.*, 14 Cal.5th 1075, 1088 (2023). The proper focus of “as a result of,” Cal. Bus. & Prof. Code § 17204, is on whether plaintiffs “undertook the expenditures in response to, and to counteract, the effects of defendant’s alleged misconduct.” *Id.* at 1098. Said another way, Plaintiffs “must show that the defendant’s actions have posed a threat to the plaintiff organization’s mission, causing it to devote resources to allay the threat.” *Id.* at 1099.

233. Each plaintiff has standing to assert a UCL claim as each has expended resources and incurred costs in furtherance of its *bona fide* pre-existing mission, *supra* at ¶¶ 24-32, 157-207, to protect California’s natural resources from the injuries caused by ExxonMobil’s continuing proliferation of single-use plastics. *See supra* at ¶¶ 151-156.

234. Under the “unlawful” prong, “section 17200 borrows violations of other laws and treats them as unlawful practices that the unfair competition law makes independently actionable.” *Cel-Tech Commc’ns, Inc. v. Los Angeles Cellular Tel. Co.*, 20 Cal.4th 163, 180 (1999).

235. ExxonMobil violates the “unlawful” prong of the UCL by borrowing from the law of public nuisance. Cal. Civ. Code §§ 3479-3480; (*see* Dkt. 47, Court’s Order of September 5, 2025 at 17) (finding that Plaintiffs “plausibly aver[red] that [ExxonMobil] contributed to the creation of a public nuisance in the form of single-use plastic pollution.”); *see also Tesoro Ref. & Mktg. Co. LLC v. City of Long Beach*,

334 F.Supp.3d 1031, 1057 (C.D. Cal. 2017) (Where “Plaintiffs have adequately pleaded that Defendants may be responsible for a public nuisance in violation of California Civil Code section 3480, Plaintiffs have adequately pleaded an unlawful UCL claim.”).

236. Under the “unfair” prong, “[a]n unfair business practice occurs when it offends an established public policy or when the practice is immoral, unethical, oppressive, unscrupulous or substantially injurious to consumers.” *City & Cnty. of San Francisco v. Purdue Pharma L.P.*, 491 F.Supp.3d 610, 694 (N.D. Cal. 2020).

237. Under the “unfair” prong, the “balancing test” “weigh[s] the utility of the defendant’s conduct against the gravity of the harm to the alleged victim.” *Epic Games, Inc. v. Apple, Inc.*, 67 F.4th 946, 1000 (9th Cir. 2023). “Courts must examine the practice’s impact on its alleged victim, balanced against the reasons, justifications and motives of the alleged wrongdoer.” *Davis v. HSBC Bank Nevada, N.A.*, 691 F.3d 1152, 1169 (9th Cir. 2012).

238. ExxonMobil violates the “unfair” prong because it: (1) overproduces single-use plastic polymers; (2) improperly touts that single-use plastic waste can be mitigated through landfilling, mechanical recycling, or incineration/advanced recycling; and/or (3) overdistributes single-use plastic polymers to Californians. *See Purdue Pharma*, 491 F.Supp.3d at 694.

239. ExxonMobil is the world’s largest producer of polymers to make single-use plastics, and ExxonMobil has new plastic polymer plants set for development and completion within the next five years. *Supra* at ¶¶ 3, 33, 109.

240. ExxonMobil improperly touted that single-use plastic waste could be mitigated through landfilling, mechanical recycling, and incineration/advanced recycling.

241. Despite knowing that single-use plastic cannot be safely, technically, and economically disposed by landfilling, recycling, or incineration/advanced recycling, ExxonMobil has exponentially increased its production and distribution of virgin plastic polymers, in part on the false notion that single-use plastic is just as, if not more, environmentally friendly than alternative packaging and goods like cloth, paper, glass, and aluminum.

242. ExxonMobil is a major distributor of single-use plastic packaging, including e-commerce packaging, insulated food and beverage packaging, bags and sacks, containers, cups and tubs, flexible

1 food packaging, and shoppers, liners and trash bags. *Supra* at ¶ 43. ExxonMobil’s customers include Berry
 2 Global, one of the world’s leaders in food packaging and overwrap films, which manufactures plastic
 3 products for companies like McDonalds, Starbucks, Walmart, Coca-Cola, Home Depot, and Target. *Supra*
 4 at ¶¶ 107, 108.

5 243. ExxonMobil’s unfair business practices of oversupply, improper touting, and
 6 overdistribution gravely harms Californians and offends California’s established public policy against the
 7 harmful effects of single-use plastic pollution. As some examples:

- 8 a. California enacted Cal. Pub. Res. Code §§ 42360, *et seq.* because “[p]lastic pollution
 9 is an environmental and human health hazard and a public nuisance.” Cal. Pub. Res.
 10 Code § 42360(c).
- 11 b. The California legislature further noted that “[m]icroplastics are persistent organic
 12 compounds that attract other pollutants commonly present in the environment, many of
 13 which are recognized to have serious deleterious impacts on human health or the
 14 environment, including DDT, DDE, PCBs, and flame retardants.” Cal. Pub. Res. Code
 15 § 42360(e).
- 16 c. California enacted Cal. Pub. Res. Code §§ 42040, *et seq.* because “[d]isadvantaged and
 17 low-income communities are disproportionately impacted by the human health and
 18 environmental impacts of plastic pollution and fossil fuel extraction.” Cal. Pub. Res.
 19 Code § 42040(b)(1).
- 20 d. The California legislature further noted that, “[i]n 2021, only 5 percent of postconsumer
 21 plastic waste in the United States was recycled, down from a high of 9.5 percent in
 22 2014, when the United States exported millions of tons of plastic waste to China. Even
 23 then, much of this material was incinerated or dumped into the environment and not
 24 recycled.” Cal. Pub. Res. Code § 42040(b)(3)(A).
- 25 e. California enacted Cal. Pub. Res. Code §§ 42279, *et seq.*, to further Californians’
 26 approval of Proposition 67, a statewide referendum banning single-use plastic carryout
 27 bags. Cal. Pub. Res. Code § 42279(a)(1).
- 28 f. California enacted Cal. Pub. Res. Code §§ 42270, *et seq.*, to reduce distribution of

single-use plastic foodware accessories and condiments in single-use plastic packaging by restaurants and food delivery platforms.

g. California enacted Cal. Pub. Res. Code § 42372 to reduce distribution of single-use personal care products at hotels.

244. ExxonMobil violates the “unfair” prong because its practices violate the public policy of ensuring that a business does not cause a public nuisance. *Tesoro Ref. & Mktg. Co. LLC*, 334 F.Supp.3d at 1031. ExxonMobil further violates the “unfair” prong because it has failed to take responsibility for the cleanup and remediation of its continuing proliferation of single-use plastic, which constitutes immoral, unethical, or oppressive conduct, causing significant harm to Californians. *Id.*

245. No reasons, justifications, or motives proffered by ExxonMobil outweigh the grave and substantial injuries to Californians against California public policy.

246. ExxonMobil’s plastics business model is to create an “additional outlet for crude oil” and attract “a higher return than on petroleum operations alone” by replacing paper, glass, and other biodegradable, reusable, and recyclable packaging—particularly as it faces increasing scrutiny and downward pressure on its fossil fuel production. *Supra*, e.g. at ¶¶ 103, 104, 110. ExxonMobil admits it has achieved its goal and celebrated that “[p]lastics have largely replaced glass, aluminum, and paper as packaging material.” *Supra* at ¶ 105.

247. The remedies or penalties provided by UCL are cumulative to each other and to the remedies or penalties available under all other laws of California. Cal. Bus. & Prof. Code § 17205.

248. As Plaintiffs lack an adequate remedy at law, the district court may exercise its equitable powers and grant equitable relief under the UCL. *Ruiz v. Bradford Exch., Ltd.*, No. 24-3378, 2025 WL 2473007, at *4 (9th Cir. Aug. 28, 2025); *Moran v. Edgewell Pers. Care, LLC*, No. 21-CV-07669-RS, 2022 WL 3046906, at *4 (N.D. Cal. Aug. 2, 2022) (at the pleading stage, plaintiffs may plead equitable remedies in the alternative).

249. Accordingly, plaintiffs seek the relief set forth below.

VI. PRAYER FOR RELIEF

250. Plaintiffs pray for judgment in their favor and against defendant as follows:

251. On the First Cause of Action for Private and Public Nuisance:

- a. Injunctive relief, including abatement;
- b. Compensatory damages according to proof;
- c. Prejudgment and post-judgment interest at the maximum legal rate;
- d. Costs of the proceedings;
- e. Attorneys' fees, costs, and expenses pursuant to Civil Procedure Code § 1021.5; and
- f. All other and further relief as deemed just and proper.

252. On the Second Cause of Action for violations of Bus. & Prof. Code § 17200, *et seq.*, which are cumulative to the remedies or penalties available under each unlawful, unfair, and fraudulent prong and all other California laws. *See* Cal. Bus. & Prof. Code § 17205:

- a. Injunctive relief, pursuant to Bus. & Prof. Code § 17203, that is necessary to prevent the use or employment of any practice that constitutes unfair competition;
- b. Prejudgment and post-judgment interest at the maximum legal rate;
- c. Costs of the proceedings;
- d. Attorneys' fees, costs, and expenses pursuant to Civil Procedure Code § 1021.5; and
- e. All other and further relief as deemed just and proper.

Dated: October 3, 2025

COTCHETT, PITRE & McCARTHY, LLP

By: /s/ Niall P. McCarthy
 NIALL P. McCARTHY
 TYSON C. REDENBARGER
 GRACE Y. PARK

Attorneys for Plaintiffs

VII. DEMAND FOR JURY TRIAL

Plaintiffs demand a jury trial on all such triable issues.

Dated: October 3, 2025

COTCHETT, PITRE & McCARTHY, LLP

By: /s/ Niall P. McCarthy
 NIALL P. McCARTHY
 TYSON C. REDENBARGER
 GRACE Y. PARK

Attorneys for Plaintiffs